

## SECTION A: INTRODUCTION

### SECTION SYNOPSIS

This section comprises of the following:

- Background information pertaining to this volume.
- The terms of reference.
- Principles for sustainable development and spatial planning applied in the formulation of the proposals put forward in this volume.

## 1 BACKGROUND

As described in Volume 1, the //Khara Hais Spatial Development Framework (//Khara Hais SDF) consists of three volumes as illustrated by the figure below. This document is Volume 2 of the SDF. It should be read together with Volume 1 and Volume 3, including their annexures. Background information pertaining to the planning process and aspects addressed in the SDF is provided in Volume 1.

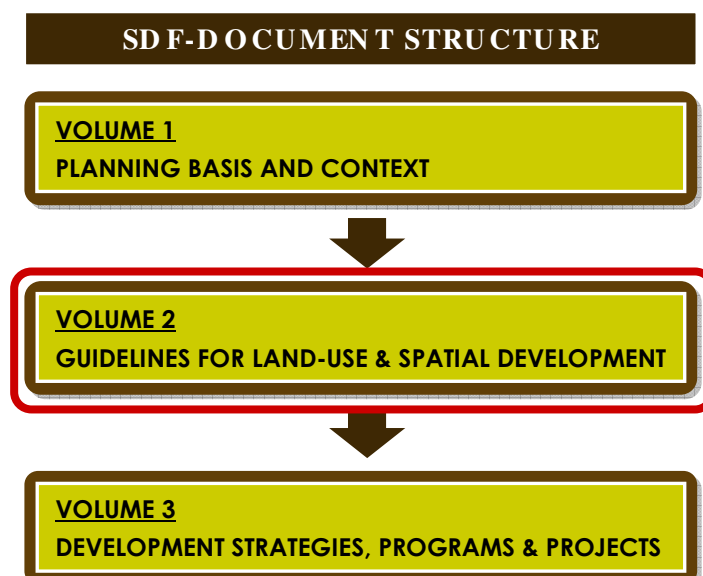


Figure 1: Volumes of the //Khara Hais SDF.

### 1.1 STRUCTURE AND CONTENT OF THE SDF

The key aspects that emerged from the *Environmental Scan and Analysis* described in Section B of Volume 1, the stakeholder consultation undertaken as part of the SDF planning process, and the //Khara Hais IDP are addressed in this document (Volume 2) and Volume 3.

Although an SDF, per definition, essentially addresses the **spatial** implications of the Integrated Development Plan (IDP), it is recognised that holistic governance and management of any area (as is contemplated for //Khara Hais) also requires the implementation of strategies that do not have any spatial implications. Subsequently, the key aspects referred to above were divided into two distinct groups, namely:

- **Aspects with Spatial Implications:** Most of these were addressed in this volume (**Volume 2**) in the form of plans and related guidelines that are to guide the future development of //Khara Hais.
- **Aspects with No Spatial Implications:** These aspects will not have spatial implications but could have an impact on sustainable development. They were addressed in **Volume 3** in the form of strategies, programs and projects to be undertaken in terms of dedicated principles, guidelines and criteria that comply with the requirement for sustainable development listed in Chapters 15 and 16 of Volume 1.

## 1.2 FUNCTION OF VOLUME 2

The document comprises mechanisms, policy guidelines and spatial structuring elements through which future development in //Khara Hais Municipality is to be planned and implemented.

The document provides guidance pertaining to:

- a) The availability and extent of vacant land that could be utilized to address the various needs of the town of Uppington and its inhabitants.
- b) Environmental constraints that impact upon the future use of any such vacant land.
- c) Potential opportunities on vacant land for development or any other appropriate forms of land use that address the various needs of //Khara Hais Municipality and its inhabitants.
- d) Appropriate land use classification of the entire //Khara Hais Municipality with the objective to ensure the sustainability of such land uses and the compliance thereof with the vision, goals, and objectives set for the area.
- e) Spatial structuring elements to be imposed to ensure that any future urban renewal and restructuring, development projects, and associated land uses to be undertaken in //Khara Hais comply with the criteria and principles of 'good place-making'. These spatial structuring elements will include:
  - (i) Appropriate outer limits for outward spread of the town of Uppington under the present growth rate and in terms of the current and predicted availability of resources.
  - (ii) Activity corridors that abut primary transport routes and provide opportunities for mixed-use development.
  - (iii) Activity Streets that provide viable opportunities for local business and community facilities.
  - (iv) Nodes that occur at intersections of activity corridors and streets and which are designated for concentrations of a particular use.
  - (v) Precincts, or special use areas, dominated by primary community-based activities and land uses that influence settlement pattern and growth.
  - (vi) A Municipal Open Space System (MOSS) which consists of a contiguous network of natural corridors and public open spaces focused on promotion of the well-being of the people of //Khara Hais and the integrity of the environment as a totality.

In practical terms, this volume provides guidance pertaining to:

- Where development or other appropriate land use could be undertaken.
- How such development or land use should be planned, designed, and implemented; and,
- How such land uses are to be managed in the long-term so as to ensure that all activities collectively contribute towards creating a highly functional and sustainable municipal area.

As such, the primary purpose of this volume is to serve as a manual for the future development of //Khara Hais Municipality as a whole through the following:

- Providing a standard format for planning and design with the aim to facilitate sustainable development throughout //Khara Hais.
- Providing judicious land-use classification in a standard format based on a broad spectrum of environmental parameters and a system of values and ethics.

### 1.3 DOCUMENT STRUCTURE

The figure below illustrates and contextualizes the various elements addressed in this document. These elements collectively form the backbone of the //Khara Hais SDF as it relates to the spatial restructuring, forward planning and design, and development of //Khara Hais.



Figure 2: Document Structure.

## SECTION B: VACANT LAND ANALYSIS

### SECTION SYNOPSIS

This section describes the process and provides a plan pertaining to the identification and status analysis of the vacant public land in //Khara Hais Municipality.

## 2 VACANT LAND ANALYSIS

In terms of the project brief documented in Chapter 1.1 of Volume 1, one of the focal points of the SDF was to update the existing Vacant Land Analysis. Subsequently, as the first step towards the drafting of the SDF, an inventory and analysis was undertaken of all public and parastatal land and the current status thereof.

The SDF builds on the premise that public land within //Khara Hais is a **primary resource with huge latent value and that this value should be unlocked in a sustainable manner to the extent possible.**

Such public land *inter alia* holds the key to achieving the vision, goals and objectives set for //Khara Hais, in particular, as it relates to social integration, eradication of poverty and inequality. The SDF consequently promotes innovative and responsible use of public land either as a tradable asset or as an investment opportunity through public-private-community partnerships.

### 2.1 LAND CATEGORIES

The Vacant Land Analysis is an inventory of all vacant land owned by the Municipality, Provincial or National Government, and parastatals that could serve as a tradable or usable resource. All public property listed in the previous Vacant Land Analysis was revisited and properties that have since been developed were excluded.

In terms of the Vacant Land Analysis all public land was categorized into the following three categories:

**Table 1: Land categories.**

	CATEGORY	DESCRIPTION
a)	<b>Vacant</b>	Properties which have not been subjected to any form of infrastructural development.
b)	<b>Partially Developed</b>	Properties which have been partially subjected to either informal or formal development or infrastructural development and investment below ground level (e.g. service infrastructure).
c)	<b>In-Process</b>	Properties which are in the process of being developed and/or in terms of which a rezoning application has been submitted and/or approved.

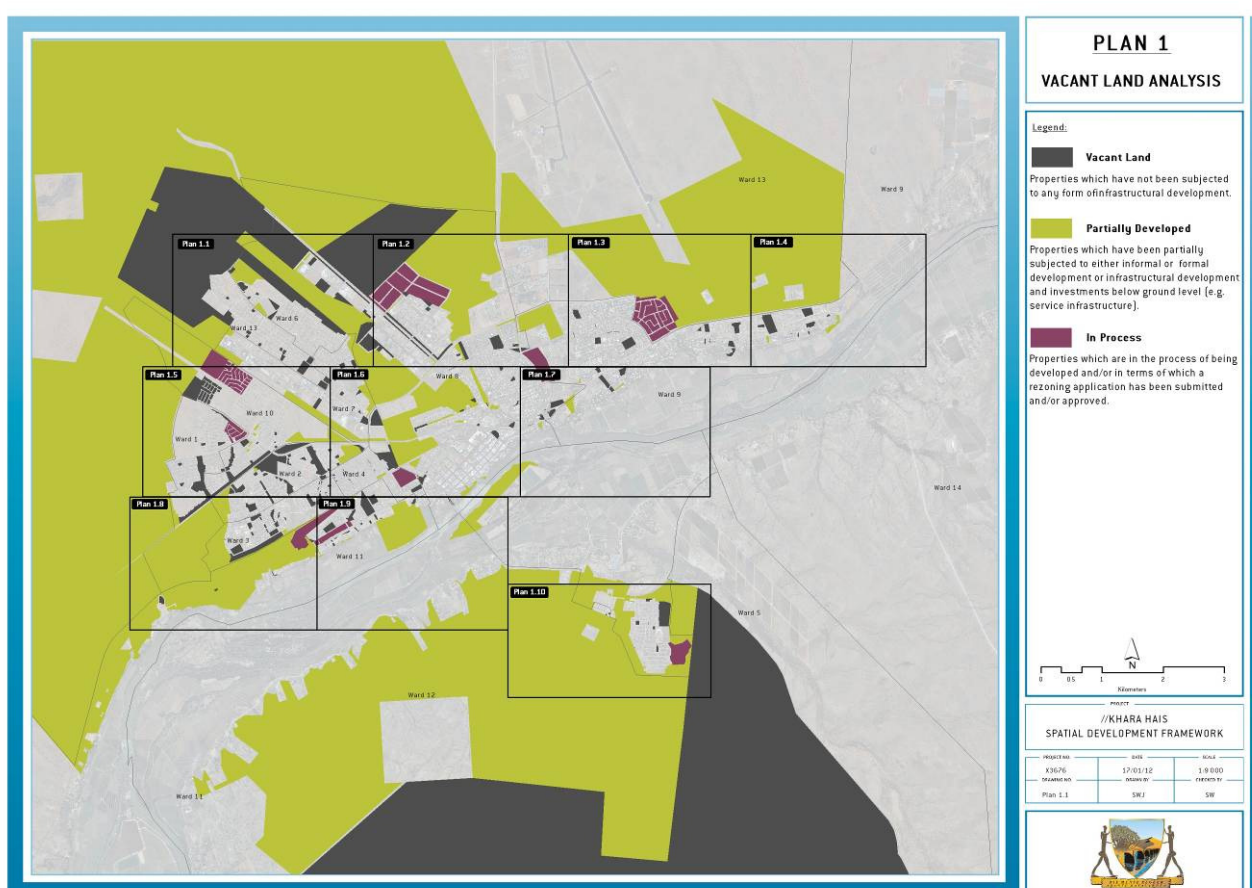


The public land in the Municipality consists of a significant number of portions and subdivisions most of which fall into the category of *Vacant*. The largest singular unit of public land is the municipal commonage (Erf 1). This land has been subdivided and re-subdivided into a plethora of portions, the majority of which is *Vacant*, while a number of portions have been categorized as *Partially Developed* and *In-Process*. The table below summarises the status of the public land units in //Khara Hais.

**Table 2: Status of public land units (estimated).**

CATEGORY		NUMBER OF PROPERTIES
a)	<b>Vacant</b>	330
b)	<b>Partially-Developed</b>	110
c)	<b>In-Process</b>	3
	<b>TOTAL</b>	<b>443</b>

The figure below and Plan 1 and Plans 1.1 to 1.10 (appended under separate cover) illustrate the public land units in //Kara Hais and their current status. It is imperative that these plans be updated constantly by the Directorate Town Planning and Building Control so as to keep appropriate record of the municipal land resource base.



**Figure 3: Municipal Vacant Land Analysis (Refer to Plan 1 & Plans 1.1 to 1.10 under separate cover).**

## SECTION C: LAND USE PLANNING

### SECTION SYNOPSIS

This section describes the process and provides plans pertaining to the designation of appropriate land use(s) for //Khara Hais Municipality as a whole. In particular, the following aspects were addressed:

- a) A value-based designation approach.
- b) Environmental constraints and development suitability.
- c) Land use classification in terms of a set of Spatial Planning Categories (SPCs).
- d) Practical application of SPCs.

## 3 TOWARDS COHERENT LAND USE DESIGNATION

### 3.1 A VALUE-BASED DESIGNATION APPROACH

The development and management of the natural and human-made environment is influenced by land-use decisions. In turn, land-use decisions are influenced by values, norms and ethics. A general problem in this regard, is that the strong moral values, norms and ethics required for coherent decision-making are often not given the necessary priority, or are over-ruled by rules-based systems, resulting in, amongst others, non-sustainable land-use, development of low quality settlements, uncontrolled and rural sprawl, etc. It is therefore clear that land-use decisions should not only be informed by rules and regulations, but by also by a set of agreed-upon values, norms, and ethics.

As the first step towards preparing a detailed land use plan for the entire municipality, a broad-based ***Environmental Constraints and Development Suitability Plan*** was drafted in accordance with a set of basic values and environmental ethics. These were determined in a collaborative, participative process with all relevant stakeholders, representing an adequate mix of local, indigenous and scientific knowledge.

The evaluation formed part of the stakeholder consultation process undertaken as part of the drafting of the SDF. The significance of the unique mix of current and potential values of the various places collectively forming //Khara Hais Municipality have been recorded and translated into an ***Environmental Constraints and Development Suitability Plan*** and a coherent ***Land Use Plan*** (refer to Chapter 4.3 below), which collectively provide concrete and practical guidelines for the different stages of planning, design, decision-making, implementation and management of projects and plans. It is imperative that the determination of the value of places in //Khara Hais will not be a once-off event, but rather an ongoing process and that the SDF be up-dated accordingly.

The premise for the evaluation process was the United Nations World Charter for Nature which states that *'every place, thing or form of life is unique, warranting respect regardless of its worth to man'* (Rolston, 1994)<sup>1</sup>. The values addressed and the relevant questions posed when determining the value, environmental constraints, and appropriate land use for the entire //Khara Hais Municipality are as follows:

<sup>1</sup> Rolston, H. 1994. *Conserving natural value: Perspectives in biological diversity series*. New York: Columbia University Press.

**Table 3: Towards determining value.**

	VALUE	QUESTIONS POSED
a)	<b>Intrinsic Value</b> (This refers to aspects such as aesthetic quality, heritage and cultural significance, social connotations).	<i>What are the unique intangible assets and characteristics of the particular land portion or feature?</i>
b)	<b>Instrumental Value</b> (This refers to the potential use or functions of the site, or item).	<i>What are the current and/or potential uses of the particular portion or feature?</i>
c)	<b>Systemic Value</b> (This refers to the role of the site or feature in an ecological, social, or economic system).	<i>What is the real or potential contribution of the portion or feature to the health of the natural and cultural environment, the social environment, and the local economy?</i>
d)	<b>Current Status</b>	<i>What is the current status of the portion or feature, in particular, as it relates to land use?</i>
e)	<b>Vision</b>	<i>What could the vision of the portion or feature be, in particular, as it relates to the promotion of a developmental state in //Khara Hais?</i>

## 3.2 ENVIRONMENTAL CONSTRAINTS AND DEVELOPMENT SUITABILITY

### 3.2.1 ENVIRONMENTAL CONSTRAINTS THAT AFFECT DEVELOPMENT

As stated previously the key objective of the Municipality is to promote sustainable development which requires a balanced relationship between the three imperatives of *human well-being*, *economic efficiency* and *environmental integrity*. This implies that all developments have to comply with environmental, social, and economic criteria and requirements.

For //Khara Hais to be able to move towards a *developmental state* such as is contemplated and promoted by the national government, and to provide a broad-base premise upon which development-related decisions by the Municipality can be based, an *Environmental Constraints and Development Suitability Plan* was prepared as part of the SDF. This plan was based upon site-specific information pertaining to:

- a) Accessibility.
- b) Aesthetic aspects.
- c) Agricultural potential.
- d) Archaeology.
- e) Current land-use.
- f) Feasibility of development.
- g) Floodlines.
- h) Fragmentation susceptibility and implications.
- i) Geology and soils.
- j) Geotechnical aspects.
- k) Heritage resources.
- l) Hydrology.
- m) Occurrence of sensitive plant and animal habitats.

- n) Pollution potential and implications.
- o) Potential for rehabilitation.
- p) Potential impact of development.
- q) Proximity to existing infrastructure.
- r) Riverine and riparian areas.
- s) Servitudes.
- t) Topography and slopes.

Policy and land use directives that have an impact on development in //Khara Hais pose certain constraints. These policies were scrutinized and questioned and mitigatory measures have been explored by consulting engineers and environmentalists with the aim to unlock development opportunities located, for example, below the 1:50-year floodline (refer to Chapter 10.1).

### 3.2.2 DEVELOPMENT SUITABILITY

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The site-specific information and the values obtained from the processes summarized above were synthesised into three broad site categories, providing guidance pertaining to the **suitability** of the various sites for development and the **desirability** of development being undertaken at such sites. The three categories illustrated by the *Environmental Constraints and Development Suitability Plan* are the following:

- a) **No Development Zone**
- b) **Conditional Development Zone**
- c) **Development Zone**

#### 3.2.2.1 No Development Zone

This zone constitutes areas where development should not be allowed due to general environmental and infrastructural constraints and the fact that these sites currently have high *intrinsic* and *systemic* value. Such areas include:

- a) Areas of conservation importance such as the Gariep River and identified riparian areas.
- b) Ecological corridors associated with the Gariep River, drainage systems, and tributaries.
- c) Identified areas located below the Upington Irrigation Canal (generally accepted as the 1:50-year floodline).
- d) Identified areas below the 1974 and 1988 flood line.
- e) Steep slopes (>1:4) which increases aesthetic sensitivity and development costs.
- f) Sensitive habitats and physically unstable areas, e.g. flood-plains and areas susceptible to drift sands (which include sandy areas stabilised by alien vegetation).
- g) Areas characterised by rocky outcrops.
- h) Registered servitudes for power lines, sewerage lines, railway lines, and roads.
- i) Sites which is too fragmented or too small to be a viable development option.
- j) Areas with high aesthetic quality and sensitivity.

#### 3.2.2.2 Conditional Development Zone

This category comprises areas where development can be considered under specific conditions aimed at mitigating the potential detrimental effects of such development. Compliance with such conditions must be auditable and measurable and subject to strict penalty clauses.

This category includes:

- Areas with moderate *intrinsic* and *systemic* value where development will not have a detrimental effect on such values.
- Areas with potentially high *instrumental* value (including sites that are of high strategic importance for municipal service and development based upon public-private-community partnerships).
- Defined sensitive sites where development can be undertaken under specific conditions (e.g. that potential detrimental impact of development must be mitigated to a defined extent).

Conditions that may be considered include the following:

- a) Any potential detrimental impacts of development must be mitigated to a defined extent.
- b) Conservation-worthy habitats within such sites must receive statutory long-term protection.
- c) Individual plants of rare endemic species that occur on a site designated for development must be sensitively relocated into the ecological corridors or conservation areas.
- d) Developments below the 1:50-year flood line and within, or near, the watercourse must register the following activities as a water use before the development will be approved:
  - Impeding or diverting the flow of the water in a watercourse, and
  - Altering the bed, banks, course or characteristics of a watercourse.

The Conditional Development Zone includes the following:

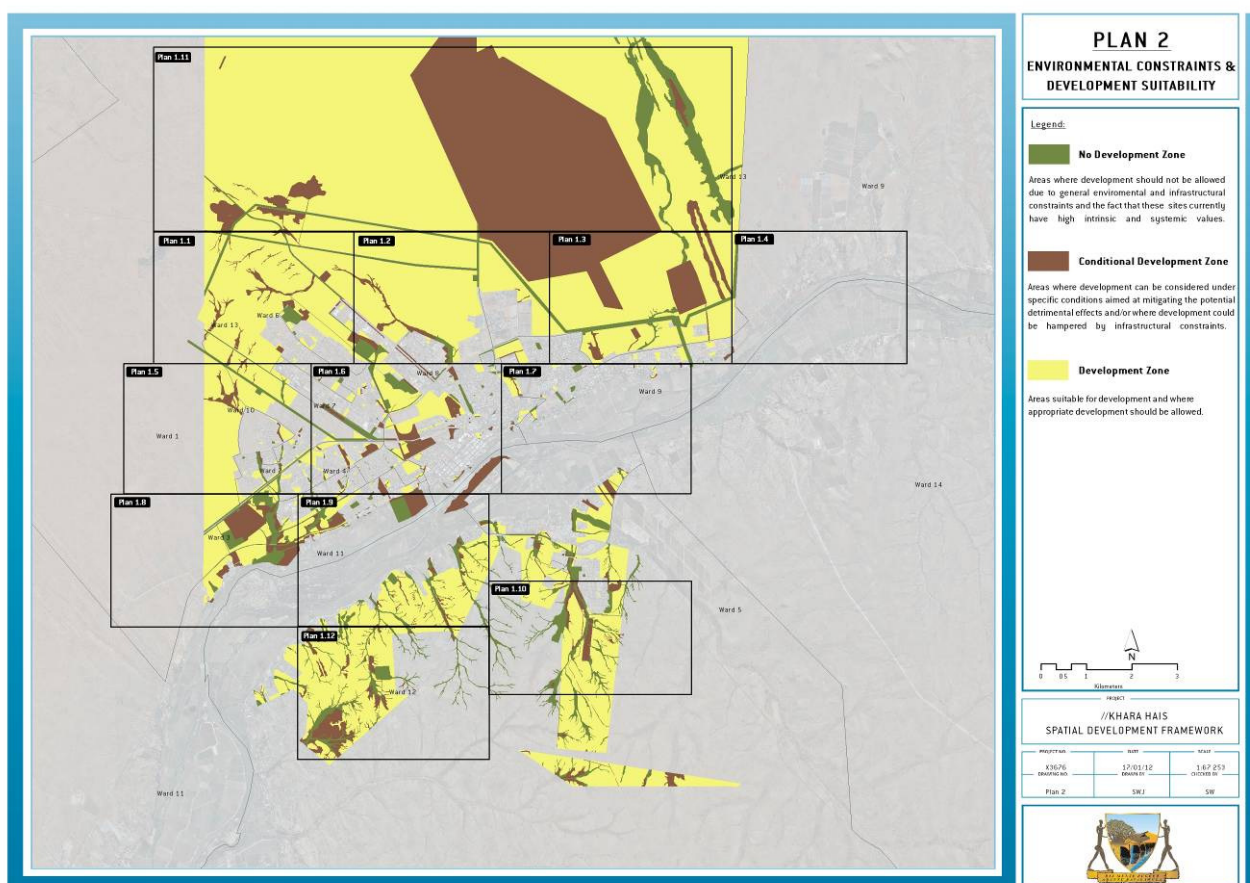
- (i) Defined areas along the Gariep River (especially those that have already been modified), with specific reference to identified sites located below the Upington Irrigation Canal or the 1:50-year flood line.
- (ii) Sites that form an integral part of ecological corridors or have a function in the management of stormwater runoff.
- (iii) Areas previously designated for development and for which development proposals have been drafted. However, due to uncertainty pertaining to the planning status of such land development applications have not been lodged.
- (iv) Areas designated for governmental or official use.

### 3.2.2.3 Development Zone

This category refers to areas suitable for development and where appropriate development should be allowed. This includes sites that form part of the designated urban expansion zones and the spatial structuring elements, or components, described in Section D below. Sites in this category generally have a permanent low *intrinsic* and *systemic* value.

It is proposed that all future developments in the Municipality be restricted to the *Development Zone*, in particular, and to the Conditional Development Zone indicated by the *Environmental Constraints and Development Suitability Plan* (refer to the figure on the following page and the appended plans).

Figure 4, Plan 2 and Plans 2.1 to 2.12 illustrate the three development suitability categories for the vacant land of the Municipality.



**Figure 4: Environmental Constraints and Development Suitability Plan (Refer to Plan 2 & Plans 2.1 to 2.12 under separate cover).**

It is important to note that the *Environmental Constraints and Development Suitability Plan* is a broad-brush category designation, the purpose of which is to provide a general indication of the suitability of land for development and the desirability of development being undertaken on such land. It does not replace the mandatory environmental processes prescribed by legislation.

The *Environmental Constraints and Development Suitability Plan* and the detailed *Land Use Plan* described in Chapter 4 provide guidance pertaining to the decisions to be taken by the Municipality. The designation of the *Development Zone* does not grant development rights nor does it prevent the Municipality from requesting applicants to undertake detailed specialist studies (or even a Strategic Environmental Assessment) as basis for the application.

## 4 LAND-USE CLASSIFICATION

The *Environmental Constraints and Development Suitability Plan* described in Chapter 3 provided the first rough-grain layer for the preparation of a more detailed *Land Use Plan* that illustrate the appropriate land use for the entire //Kara Hais Municipality. The land use classification was undertaken in terms of a set of *Spatial Planning Categories (SPCs)* prepared for this purpose. These SPCs were based upon the biosphere reserve zoning model described.

## 4.1 SPATIAL PLANNING CATEGORIES

The SPCs and associated application guidelines used in this SDF were derived from similar approaches used *inter alia* in the Western Cape in terms of a *bioregional planning* approach and policy. The Municipality has directed that the SDF be based upon the bioregional planning approach.

The SPCs take cognisance of the values and ethics summarised in Chapter 3.1 above and include all land zonings that are provided for under the existing Zoning Scheme Regulations. The SPCs are a mechanism to indicate the appropriate land use on any particular land unit. SPCs help to clarify and facilitate coherent decision-making that can lead to better zonation, laws and regulations. The SPCs, furthermore, provide a framework in terms of which land-use decisions can be standardised throughout the Municipality. The existing Zoning Scheme Regulations and the proposed SPCs have been aligned to a large extent. **It should, however, be noted that the SPCs are not a blueprint for land-use classification. SPCs are not a zoning scheme and their designation does not change existing zoning or land-use regulations or legislation.**

As indicated in the table below, a total of six SPCs were used for the land use classification of the Municipality. Two of these, namely A and B, refer to the natural landscape, while four types, namely C, D, E, and F, refer to the (cultural) human-made environment. In addition, **41** sub-categories have been created to facilitate detailed land use classification (refer to Table 4 and Figure 5 on the following page).

**Table 4: The six primary Spatial Planning Categories.**

CATEGORY	DESCRIPTION	CLASSIFICATION CRITERIA & PURPOSE
Category A	Designated Core Conservation Area	a) Areas of high conservation importance to be protected from development. b) Generally only <i>non-consumptive land-uses</i> <sup>2</sup> allowed conditionally.
Category B	Buffer Area	a) Areas that serve as a buffer between Category A and all other Categories. b) Providing an appropriate interim classification for conservation-worthy areas that do not have statutory protection, including ecological corridors and areas worthy of rehabilitation. c) Appropriate sustainable development and non-consumptive land-uses may be allowed conditionally.
Category C	Agricultural areas	Rural areas where extensive and intensive agriculture is practiced.
Category D	Urban-related areas	Areas accommodating a broad spectrum of urban-related development and associated services and infrastructure.
Category E	Industrial areas	Areas accommodating industrial activities and associated infrastructure and where very high intensity of human activity and consumptive land use occur.
Category F	Surface infrastructure and buildings	All surface infrastructure and buildings not catered for in the above categories, including roads, railway lines, power lines, communication structures, etc.

<sup>2</sup> Refers to land-use that does not include harvesting or extraction of products for consumption, e.g. recreation, tourism, religious ceremonies, research, education, etc.



## 4.2 SUB-CATEGORIES

As illustrated by Figure 5 and Table 5, the various SPCs and Sub-categories were numbered in alphabetical order, the purpose being to provide for a system in terms of which each entity in the municipal area can be allocated a coded number that would facilitate effective land-use management. The table provides a short description of the SPCs and Sub-categories.

# SPATIAL PLANNING CATEGORIES

	<b>A</b> CORE	A.a	Statutory Protected Areas
	<b>B</b> BUFFER	B.a B.b B.c	Non-Statutory Conservation Areas Ecological Corridors Urban Green Areas
	<b>C</b> AGRICULTURAL AREAS	C.a C.b	Extensive agricultural areas Intensive agricultural areas
	<b>D</b> URBAN RELATED	D.a D.b D.c D.d D.e D.f D.g D.h D.i D.j D.k D.l D.m D.n D.o D.p D.q D.r	Main Towns Local Towns Rural Settlements Tribal Authority Settlements Communal Settlements Institutional Areas Authority Areas Residential Areas Business Areas Service Related Business Special Business SMME Incubators Mixed Use Development Areas Cemeteries Sports fields & Infrastructure Airport and Infrastructure Resorts & Tourism Related Areas Farmsteads & Outbuildings
	<b>E</b> INDUSTRIAL AREAS	E.a E.b E.c E.d E.e	Agricultural industry Light industry General industry Nuisance industry Extractive industry
	<b>F</b> SURFACE INFRASTRUCTURE & BUILDINGS	F.a F.b F.c F.d F.e F.f F.g F.h F.i F.j F.k F.l	National roads Main roads Minor roads Public Streets Heavy Vehicle Overnight Facilities Railway lines Power lines Telecommunication Infrastructure Renewable Energy Structures Dams & Reservoirs Canals Sewerage Plants and Refuse Areas

**Figure 5: //Khara Hais SDF Spatial Planning Categories and Sub-Categories.**



Table 5: Synopsis of the Sub-Categories.

CATEGORY A: CORE AREAS		
SUB-CATEGORY		DESCRIPTION
A.a	<b>Statutory Protected Areas</b>	<p>Areas designated in terms of legislation for biodiversity conservation, defined categories of outdoor recreation and resource use.</p> <p>Conservation purposes are <i>purposes normally or reasonably associated with, the use of land for the protection of the natural and/or built environment, including the protection of the physical, ecological, cultural and historical characteristics of land against undesirable change</i> (adapted from Draft Spatial Planning and Land Use Management Bill, 2011).</p>
A.a.1		<p><u>Wilderness Areas</u> (declared in terms of NEMPA 57 of 2003)</p> <p><i>Areas characterised by their intrinsically wild and pristine appearance and character, or that are capable of being restored to such, and which are undeveloped, without permanent improvements or human habitation. Such areas are declared to:</i></p> <ul style="list-style-type: none"> <li>a) <i>protect and maintain the natural character of the environment, biodiversity resources, associated natural and cultural resources ;</i></li> <li>b) <i>provide environmental goods and services;</i></li> <li>c) <i>provide outstanding opportunities for solitude and primitive outdoor experiences; and</i></li> <li>d) <i>provide controlled access to those who understand and appreciate wilderness, and those who wish to develop such an understanding.</i></li> </ul>
A.a.2		<p><u>Special Nature Reserves</u> (declared in terms of NEMPA<sup>3</sup> 57 of 2003)</p> <p><i>Areas characterised by sensitive, ecologically outstanding ecosystems or natural habitats, natural communities, populations or species, or unique geological or biophysical features conserved primarily for scientific research, educational and limited nature-based recreational purposes.</i></p>
A.a.3		<p><u>National Parks</u> (declared in terms of NEMPA 57 of 2003)</p> <p><i>Designated to protect areas of national or international biodiversity importance; or containing a representative sample of South Africa's natural systems, scenic areas or cultural heritage sites; or the ecological integrity of one or more ecosystems. National parks provide spiritual, scientific, educational, recreational and tourism-related opportunities which are mutually and environmentally compatible and can contribute to local and regional economic development.</i></p>
A.a.4		<p><u>Nature Reserves</u>, including provincial, local authority and registered private nature reserves (declared in terms of NEMPA 57 of 2003)</p> <p><i>Areas of significant ecological, biophysical, historical, or archaeological interest or that are in need of long-term protection for the maintenance of its biodiversity or for the provision of environmental goods and services. Nature reserves are declared to</i></p> <ul style="list-style-type: none"> <li>a) <i>supplement the systems of wilderness areas and national parks in South Africa;</i></li> <li>b) <i>sustainably provide natural products and services to local communities;</i></li> <li>c) <i>enable the continuation of traditional resource uses; and</i></li> <li>d) <i>provide nature-based recreational and tourism opportunities.</i></li> </ul>
A.a.5		<p><u>Protected Environments</u> (declared in terms of NEMPA 57 of 2003)</p> <p><i>Areas may be declared as a protected environment to:</i></p> <ul style="list-style-type: none"> <li>a) <i>Conserve the area as a buffer zone for the protection of a wilderness area, special natural reserve, national park, world heritage site or nature reserve.</i></li> <li>b) <i>Enable owners of land to take collective action to conserve biodiversity on their land and to seek legal recognition for such actions.</i></li> <li>c) <i>Protect the area if it is sensitive to development due to its –</i> <ul style="list-style-type: none"> <li>– <i>Biological diversity;</i></li> <li>– <i>Natural, cultural, historical, archaeological or geological value;</i></li> <li>– <i>Scenic and landscape value; or</i></li> <li>– <i>Provision of environmental goods and services.</i></li> </ul> </li> <li>d) <i>Protect a specific ecosystem outside of a wilderness area, special nature reserve, national park, world heritage site.</i></li> <li>e) <i>Ensure that the use of natural resources is sustainable.</i></li> </ul>

<sup>3</sup> National Environmental Management: Protected Areas Act 57 of 2003

	f) <i>Control change in land use if the area is earmarked for declaration as, or inclusion in, a wilderness area, national park or nature reserve.</i>
A.a.6	<p><b>Forest Wilderness Areas / Forest Nature Reserves</b> (in terms of s 8[1] of National Forests Act 84 of 1998)</p> <p><i>Declared forest wilderness areas and forest nature reserves include:</i></p> <ul style="list-style-type: none"> <li>a) <i>natural forests, i.e. tract of indigenous trees whose crowns are largely contiguous and which comprise all other floral and faunal forest elements;</i></li> <li>b) <i>woodlands, i.e. a group of indigenous trees which are not a natural forest, but whose crowns cover more than 5% of the area bounded by the trees forming the perimeter of the group; and</i></li> <li>c) <i>natural habitats or ecosystem components.</i></li> </ul>
A.a.7	<p><b>Marine Protected Areas</b> (declared in terms of Marine Living Resources Act 18 of 1998)</p> <p><i>Areas declared as a marine protected area:</i></p> <ul style="list-style-type: none"> <li>a) <i>For the protection of communities, populations or species of fauna and the biophysical features on which they depend;</i></li> <li>b) <i>To facilitate fishery management by protecting spawning stock, allowing stock recovery, enhancing stock abundance in adjacent areas, and providing pristine communities for research; or</i></li> <li>c) <i>To mitigate any conflict that may arise from competing uses in that area.</i></li> </ul>
A.a.8	<p><b>World Heritage Sites</b> (declared in terms of World Heritage Convention Act 49 of 1999)</p> <p><i>Cultural<sup>4</sup> or natural<sup>5</sup> areas that has been:</i></p> <ul style="list-style-type: none"> <li>a) <i>Included on the World Heritage List, or the tentative list of the Republic, and has been proclaimed as a World Heritage Site, or</i></li> <li>b) <i>Proclaimed to be a special heritage site for management in accordance with the Act (such areas cannot be referred to as a World Heritage Site).</i></li> </ul>
A.a.9	<p><b>Mountain Catchment Areas</b> (declared in terms of Mountain Catchment Areas Act 63 of 1970)</p> <p><i>Areas declared as mountain catchment areas that provide for the conservation, use, management and control of such land.</i></p>

## CATEGORY B: BUFFER AREAS

SUB-CATEGORY		DESCRIPTION
<b>B.a</b>	<b>Non-Statutory Conservation Areas</b>	Areas voluntarily set aside by land owners and managed for conservation purposes in terms of the legislation applicable to the current zoning of such land and not in terms of dedicated conservation legislation.
B.a.1	<u>Contractual Conservation Areas</u>	<i>Areas designated for conservation purposes in terms of an agreement with a conservation agency, or between landowners, a lease agreement, or a servitude. This category includes conservancies and biodiversity stewardship sites.</i>
B.a.2	<u>Private conservation areas</u>	<i>Areas zoned as private open space zone I<sup>6</sup> in terms of Scheme Regulations made in terms of s 8 of the Land Use Planning Ordinance 15 of 1985 (LUPO), for the primary use of conservation. Also areas unofficially designated and managed for conservation purposes by the relevant land owner.</i>

<sup>4</sup> For the purpose of the Convention Concerning the Protection of the World Cultural and Natural Heritage, the following shall be considered as '**cultural heritage**': monuments, architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science, groups of buildings, groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science, sites, works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

<sup>5</sup> For the purpose of the Convention Concerning the Protection of the World Cultural and Natural Heritage, the following shall be considered as '**natural heritage**': natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view, geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation, natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.

<b>B.b</b>	<b>Ecological Corridors</b>	Linkages between natural habitats or ecosystems that contribute to the connectivity of the latter and to the maintenance of associated natural processes.
B.b.1	<u>Freshwater Ecosystem Priority Areas (FEPA)</u> (in terms of National Freshwater Ecosystem Priority Areas Project) <i>Identified river and wetland FEPAs and fish support areas, including a generic buffer of 100m, measured from the top of bank of the river or the delineated riparian areas, whichever is larger, and measured from the outside edge of the wetland (Implementation Manual for Freshwater Ecosystem Priority Areas, Aug 2011).</i>	
B.b.2	<u>Rivers or riverbeds (incl. 32 m buffer)</u> (in terms of NEMA <sup>7</sup> 107 of 1998) <i>All other perennial and non-perennial rivers and wetlands, including a buffer of 32m based on the generic buffer width used for aquatic features in the Listing Notices of the Environmental Impact Assessment Regulations, 2010 (GN R544, GN R545 and GN R546).</i>	
B.b.3	<u>Other Natural Areas</u> <i>a) Sensitive Coastal Areas.  b) Tracts of natural vegetation that form part of, or link ecosystem components (i.e. tracts of natural vegetation acting as a buffer zone between rivers located in FEPA Fish Support Areas and Fish Sanctuaries, and Category C and D areas).  c) Any other natural areas that are conservation-worthy and which form linkages to natural areas within Category C and D areas.</i>	

<b>B.c</b>	<b>Urban Green Areas</b>	Municipal open spaces (including playgrounds) that form in integral part of the urban structure (including areas zoned Open Space Zone I and II).
B.c.1	<u>Public Park</u>	
B.c.2	<u>Landscaped Areas</u>	

### CATEGORY C: AGRICULTURAL AREAS

SUB-CATEGORY		DESCRIPTION
<b>C.a</b>	<b>Extensive agricultural areas</b>	Agricultural areas covered with natural vegetation, used for extensive agricultural enterprises, e.g. indigenous plant harvesting, extensive stock-farming, game-farming, eco-tourism.
C.a.1	<u>Bona-fide Game Farms</u>	
C.a.2	<u>Extensive Stock Farms</u>	
<b>C.b</b>	<b>Intensive agricultural areas</b>	Agricultural areas used for intensive agricultural practices, e.g. crop cultivation, vineyards, intensive stock farming on pastures.
C.b.1	<u>Cultivated Areas</u>	
C.b.2	<u>Plantations and Woodlots.</u> <i>Plantations, i.e. group of trees cultivated for exploitation of the wood, bark, leaves or essential oils in the trees; forest produce, i.e. anything which appears or grows in such plantation including any living organisms and any product of it.</i>	

<sup>6</sup> Private Open Space refers to any land which has been set aside for utilisation primarily as a private site for sports, play, rest or recreational facilities or as an ornamental garden or pleasure garden and includes public land which is or will be leased on a long-term basis and a cemetery, whether public or private (*Scheme Regulations made in terms of s 8 of the Land Use Planning Ordinance 15 of 1985 (LUPO)*).

<sup>7</sup> National Environmental Management Act 107 of 1998.

CATEGORY D: URBAN-RELATED AREAS		
SUB-CATEGORY		DESCRIPTION
<b>D.a</b>	<b>Main Town</b>	Towns accommodating Category A Municipalities (i.e. metropolitan areas) and the seat (capital town) of Category C Municipalities (District Municipalities), i.e.
<b>D.b</b>	<b>Local Town</b>	Towns accommodating the seat (capital town) of Category B Municipalities (Local Municipalities), i.e.
<b>D.c</b>	<b>Rural Settlements</b>	Smaller towns and rural settlements that fall under the jurisdiction of Category B Municipalities (i.e. towns and rural settlements forming part of a Local Municipality).
<b>D.d</b>	<b>Tribal Authority Settlements</b>	Formal and informal residential areas under the ownership of tribal authorities.
<b>D.e</b>	<b>Communal Settlements</b>	Settlements that have been planned, classified and subdivided in terms of the former Rural Areas Act 9 of 1987 and which, in terms of the Transformation of Certain Rural Areas Act 94 of 1998, can be transferred to a legal entity of the community's choice, i.e. Pella, Concordia, Richtersveld, Steinkopf and Leliefontein.
<b>D.f</b>	<b>Institutional Areas</b>	Areas designated for schools, colleges (areas zoned Institutional Zone I <sup>8</sup> ); churches and mosques (areas zoned Institutional Zone II) and areas zoned Institutional Zone III.
D.f.1	<u>Place of Instruction</u> (Institutional Zone I)	
D.f.2	<u>Place of Worship</u> (Institutional Zone II)	
D.f.3	<u>Institution</u> (Institutional Zone III)	
<b>D.g</b>	<b>Authority Areas</b>	Areas designated for governmental purposes and other official uses, e.g. municipal offices, offices of parastatals (Telkom, Eskom) (areas zoned Authority Zone I & II).
D.g.1	<u>Government Uses</u> (Authority Zone II)	
D.g.2	<u>Municipal Uses</u> (Authority Zone I)	
<b>D.h</b>	<b>Residential Areas</b>	Areas designated for residential purposes, e.g. single title erven, group housing, estates (areas zoned Residential Zone I–IV), 'GAP housing' <sup>9</sup> and residential smallholdings.
D.h.1	<u>Single Residential House</u>	
D.h.2	<u>Group Housing</u>	
D.h.3	<u>Guest House</u>	

<sup>8</sup> Any reference made to zonation of erven refers to the Scheme Regulations made in terms of s 8 of the Land Use Planning Ordinance 15 of 1985 (LUPO).

<sup>9</sup> 'GAP housing' refers to a category of residential units that falls between the housing units provided by the state (< R100 000) and those provided by the private sector (>R250 000). The GAP housing market typically caters for people earning between R3 500 and R10 000 per month, which is too little to enable them to enter the private property market, yet too much to qualify for state assistance.

D.h.4	<u>Flats/Residential Building</u>
D.h.5	<u>Mixed Density Residential Area</u>
D.h.6	<u>GAP Housing</u>
D.h.7	<u>Low Cost Housing</u>
D.h.8	<u>Informal Housing</u>
D.h.9	<u>Small Holdings</u>
D.h.10	<u>Residential Estate</u>

<b>D.i</b>	<b>Business Areas</b>	Areas designated for activities associated with retail and service industries, e.g. shops, restaurants, professional offices (areas zoned Business Zone I).
D.i.1	<u>Business Premise</u>	
D.i.2	<u>Shop</u>	

<b>D.j</b>	<b>Service Related Business</b>	Areas designated for other business activities associated with service trade industries, e.g. launderettes and light manufacturing industries (areas zoned Business Zone II); and industries associated with motor vehicle sales, repairs (areas zoned Business Zone III).
D.j.1	<u>Service Trade Industry</u>	
D.j.2	<u>Service Station</u>	

<b>D.k</b>	<b>Special Business</b>	Areas designated for special business activities associated with casinos and gambling houses (areas zoned Business Zone IV) and areas identified for adult entertainment (areas zoned Business Zone V).
D.k.1	<u>Casino</u>	
D.k.2	<u>Adult Entertainment</u>	

<b>D.l</b>	<b>SMME Incubators</b>	Areas designated for Small Medium and Micro Enterprises (SMMEs) and associated infrastructure and services focused on community-based service trades and retail.
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<b>D.m</b>	<b>Mixed Use Development Areas</b>	Areas designated for innovative combinations of land use, e.g. residential/light business; light industry/light business (in terms of various municipal zonings).
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<b>D.n</b>	<b>Cemeteries</b>	Cemeteries and formal burial parks (zoned Open Space II), excluding crematoriums.
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<b>D.o</b>	<b>Sports fields &amp; Infrastructure</b>	Dedicated sports fields together with the associated infrastructure, parking areas, and services.
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<b>D.p</b>	<b>Airport and Infrastructure</b>	Area designated as airport together with the infrastructure and services associated with the airport and its activities (Transport Zone I).
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<b>D.q</b>	<b>Resorts &amp; Tourism Related Areas</b>	Resorts (areas zoned Resort Zone I) and tourism-related nodes and amenities that form part of a designated Hospitality Corridor.
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<b>D.r</b>	<b>Farmsteads &amp; Outbuildings</b>	Main farmsteads, including on-farm infrastructure required for farm logistics, e.g. houses, sheds, packing facilities, etc.
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CATEGORY E: INDUSTRIAL AREAS		
SUB-CATEGORY		DESCRIPTION
E.a	<b>Agricultural industry</b>	Agriculture-related industrial development, e.g. silos, wine cellars, packing facilities (areas zoned Agricultural Zone II), excluding abattoirs.
E.b	<b>Industrial Development Zone</b>	Dedicated industrial estate ideally linked to an international, or national, port that leverages fixed direct investments in value-added and export-orientated manufacturing industries.
E.c	<b>Light industry</b>	Areas designated for light industrial activities associated with the service industry (e.g. repair of motor vehicles) including warehouses and service stations (areas zoned Industrial Zone I and II).
E.c.1	<u>Light Industry I</u> (Industrial Zone I)	
E.c.2	<u>Light Industry II</u> (Industrial Zone II)	
E.d	<b>Heavy industry</b>	Areas designated for robust industrial activities, e.g. chemical works, brewery, manure, processing of hides, abattoirs, stone crushing, crematoriums (areas zone Industrial Zone III).
E.e	<b>Extractive industry</b>	Settlements and infrastructure associated with multiple consumptive resource extraction, e.g. mining.
CATEGORY F: SURFACE INFRASTRUCTURE & BUILDINGS		
SUB-CATEGORY		DESCRIPTION
F.a	<b>National roads</b>	National roads proclaimed in terms of the National Roads Act 7 of 1998.
F.b	<b>Main roads</b>	Provincial and regional roads proclaimed in terms of the Roads Ordinance 19 of 1976.
F.c	<b>Minor roads</b>	Regional and local roads proclaimed in terms of the Roads Ordinance 19 of 1976.
F.d	<b>Public Streets</b>	Public streets and parking areas within main town and rural settlements (areas zoned Transport Zone II and III respectively).
F.e	<b>Heavy Vehicle Overnight Facilities</b>	Areas designated for heavy vehicle parking and overnight facilities (areas zoned Transport Zone IV).
F.f	<b>Railway lines</b>	Railway lines and associated infrastructure (areas zoned Transport Zone I).
F.g	<b>Power lines</b>	Power lines and associated sub-stations and infrastructure.
F.h	<b>Tele-communication infrastructure</b>	Any part of the infrastructure of a telecommunication network for radio/wireless communication including, voice, data and video telecommunications, which may include antennae; any support structure, equipment room, radio equipment and optical communications equipment provided by cellular network operators or any other telecommunication providers and all ancillary structures needed for the operation of

		telecommunication infrastructure.
<b>F.i</b>	<b>Renewable energy structures</b>	Any wind turbine or solar voltaic apparatus, or grouping thereof, which captures and converts wind or solar radiation into energy for commercial gain irrespective of whether it feeds onto an electricity grid or not. It includes any appurtenant <sup>10</sup> structure or any test facility which may lead to the generation of energy on a commercial basis.
<b>F.j</b>	<b>Dams &amp; Reservoirs</b>	Major dams and reservoirs.
<b>F.k</b>	<b>Canals</b>	Constructed permanent waterways, e.g. irrigation canals and stormwater trenches.
<b>F.l</b>	<b>Sewerage Plants and Refuse Areas</b>	Areas designated as municipal and private sewerage treatment plants and refuse areas.

### 4.3 APPLICATION OF SPATIAL PLANNING CATEGORIES

To enable informed and objective decisions regarding the desirability of specific development proposals, it is important that municipal councillors, planning officials, local professional planners, developers, and prospective applicants understand the SPCs and Sub-categories and their specific purpose(s) and selection criteria.

In practise, the application of SPCs constitutes the following:

- a) The SPCs indicate the desired land-use designation of all land in the Municipality and specific types of land-uses that are not necessarily included in the existing Zoning Scheme Regulations. The latter should therefore be constantly aligned with the SPCs and *vice versa*.
- b) SPC designation builds on the premise that any new development implies a diversion from the *status quo*. For example, an application for the construction of new farm buildings in a tract of extensive agricultural land implies a change in SPC from C.a (Extensive Agriculture) to D.r (Farmstead). This implies that the applicant will have to provide assurance to the Municipality that the proposed development complies with the place-specific planning and design principles set for SPC D.r and that the proposed development will not have an unacceptable impact on the C.a area.
- c) SPC A areas are essentially *No Development Zones* (refer to Chapter 3.2 above). No conventional development would therefore be allowed. Development types that could be considered include environmentally-sustainable tourism-related infrastructure. Applications would be subject to an extensive EIA.
- d) SPC B.a designation on private land does not take away any of the landowner's rights, nor does it grant any rights. It merely indicates that the particular tract of land is of importance to biodiversity conservation and, consequently, to the well-being of the people of the area, and that due care should be taken in the management of the land. SPC B areas are therefore essentially *Conditional Development Zones*. No conventional development should be allowed unless it is conclusively proven by the applicant that the proposed development will be sustainable and desirable. Development types that could be

<sup>10</sup> Appurtenant structure means any structure or accessory necessary for, or directly associated with generation of renewable energy.

- considered include tourism-related and recreational infrastructure and amenities. Applications would be subject to an EIA.
- e) SPCs C-F collectively represents the *Development Zone*. Development in these areas will be subject to the development guidelines documented in Section D below.
  - f) It is recognised that the human-made landscapes of //Khara Hais are ‘contained’ by the surrounding natural landscape. The symbiotic relationships between the two landscape types need to be understood and should be reflected in any development that affects this relationship. For example, it would be undesirable to approve the establishment of an SPC E.c (Light Industry) within SPC A (Statutory Conservation Area). However, under exceptional circumstances and under strong conditions, it may be permissible to establish such an SPC E.c in an SPC C.a area (Extensive Agriculture). The planning and design of such proposed development and the decision to be taken by the Municipality would be subject to the guidelines put forward in Section D.
  - g) On the other hand, the establishment of an SPC E.a area (Agricultural Industry) within an SPC C (Agricultural Area) will not have to be approached with the same caution as the latter example, because the proposed alternative land use (agriculture-related) will not be foreign to its setting. Similarly, an application to establish an SPC D.q (Resort and Tourism-Related Area) within an SPC B area would be more acceptable than an SPC E.e (Extractive Industry).

#### 4.3.1 LAND USE CLASSIFICATION FOR //KHARA HAIS

The figure below and Plan 3 (appended under separate cover) illustrate a broad-brush land use designation of the entire Municipality in terms of the SPCs.

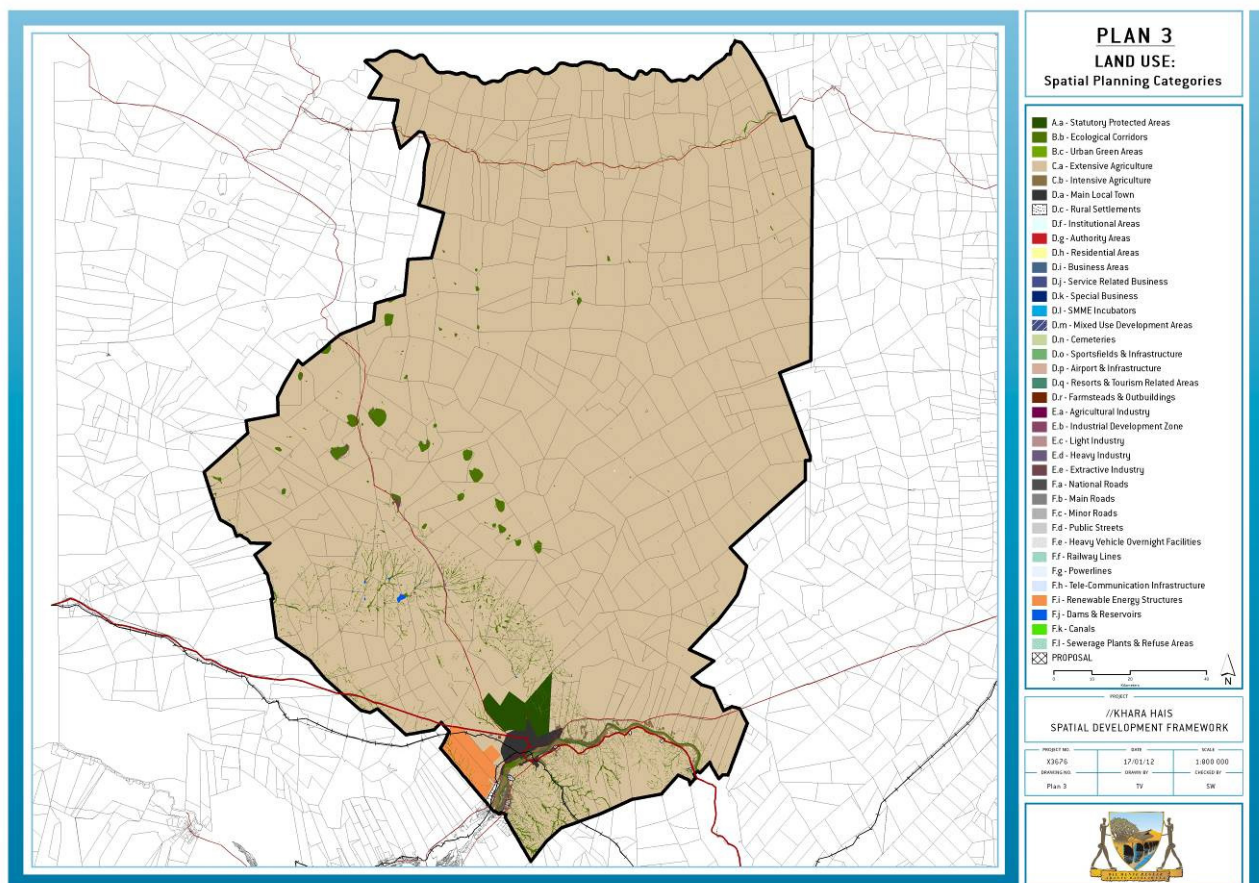


Figure 6: Broad-brush land use plan for //Khara Hais Municipality (refer to Plan 3 under separate cover).



### 4.3.2 LAND USE CLASSIFICATION FOR UPINGTON TOWN

The figure below and Plan 4 and Plans 4.1 to 4.13 (appended under separate cover) illustrate the designated land use for the town of Upington in terms of the SPCs.

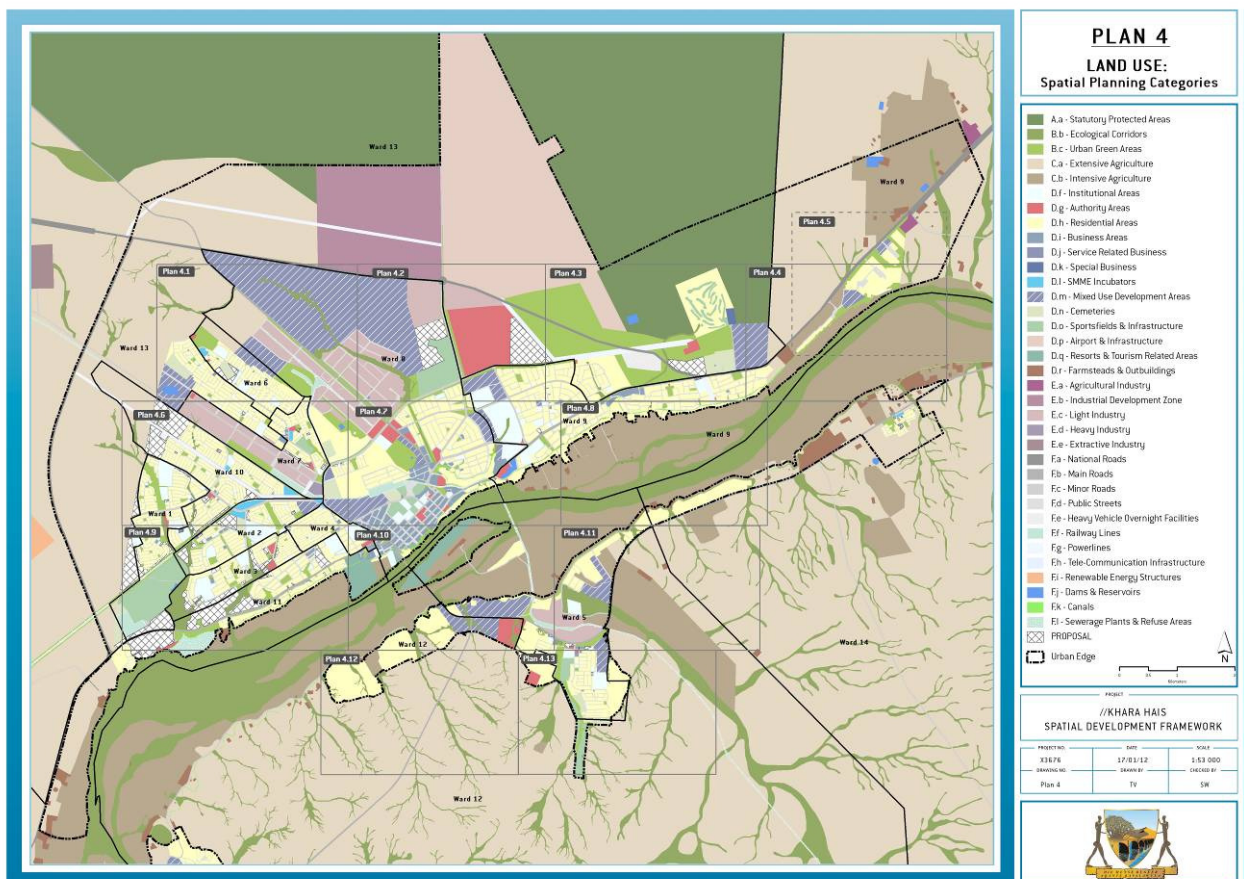


Figure 7: Land use plan for Upington (refer to Plan 4 & Plans 4.1 to 4.13 under separate cover).

### 4.3.3 LAND USE CLASSIFICATION FOR RURAL SETTLEMENTS

The figures below and Plans 5.1 to 5.8 (appended under separate cover) illustrate the designated land use for the smaller formal settlements of the Municipality, namely:

- Lambrechtsdrift (Plan 5.1).
- Karos (Plan 5.2).
- Leerkrans (Plan 5.3).
- Straussburg (Plan 5.4).
- Leseding (Plan 5.5).
- Louisvale (Plan 5.6).
- Raaswater (Plan 5.7).
- Kalksloot, Klippunt and Ses Brugge (Plan 5.8).

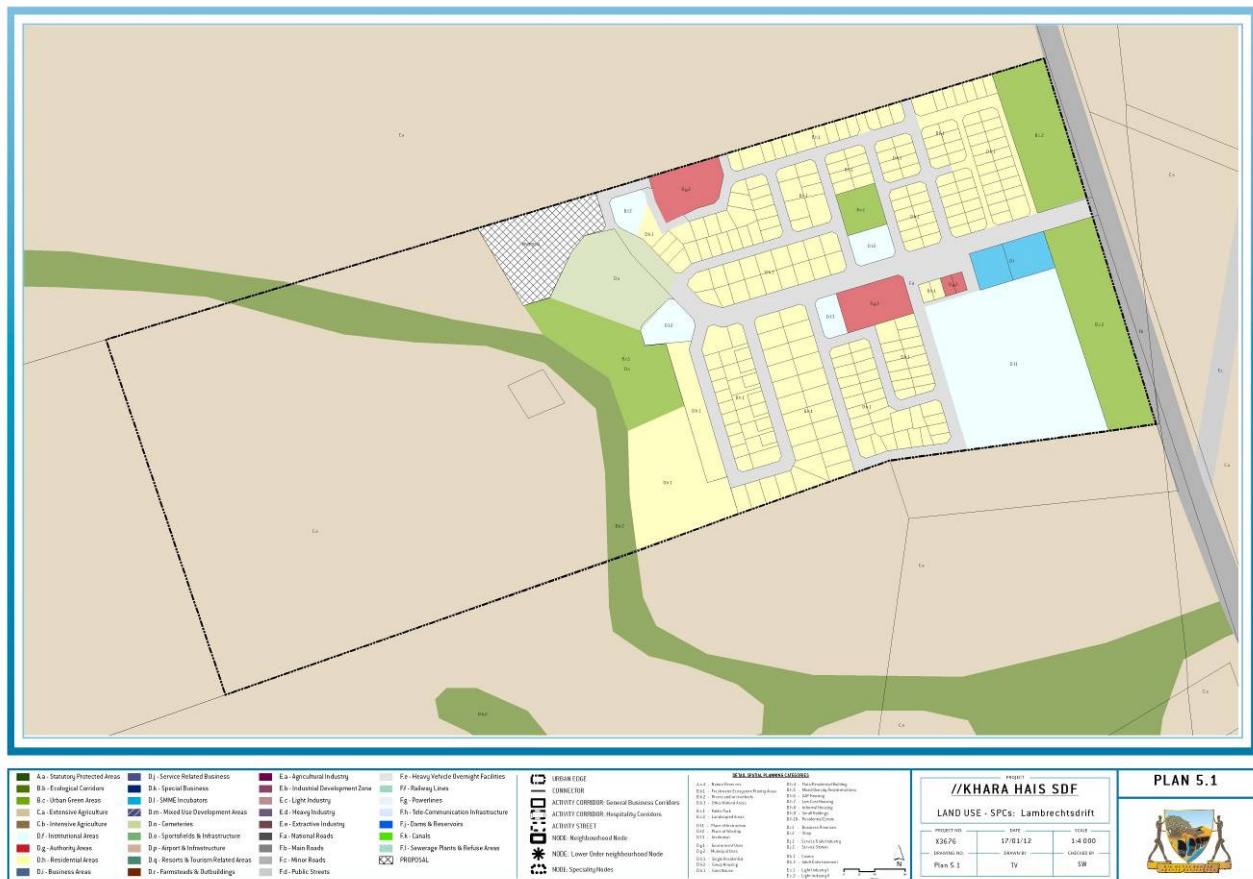


Figure 8: Land use plan for Lambrechtsdrift (refer to Plan 5.1 under separate cover).

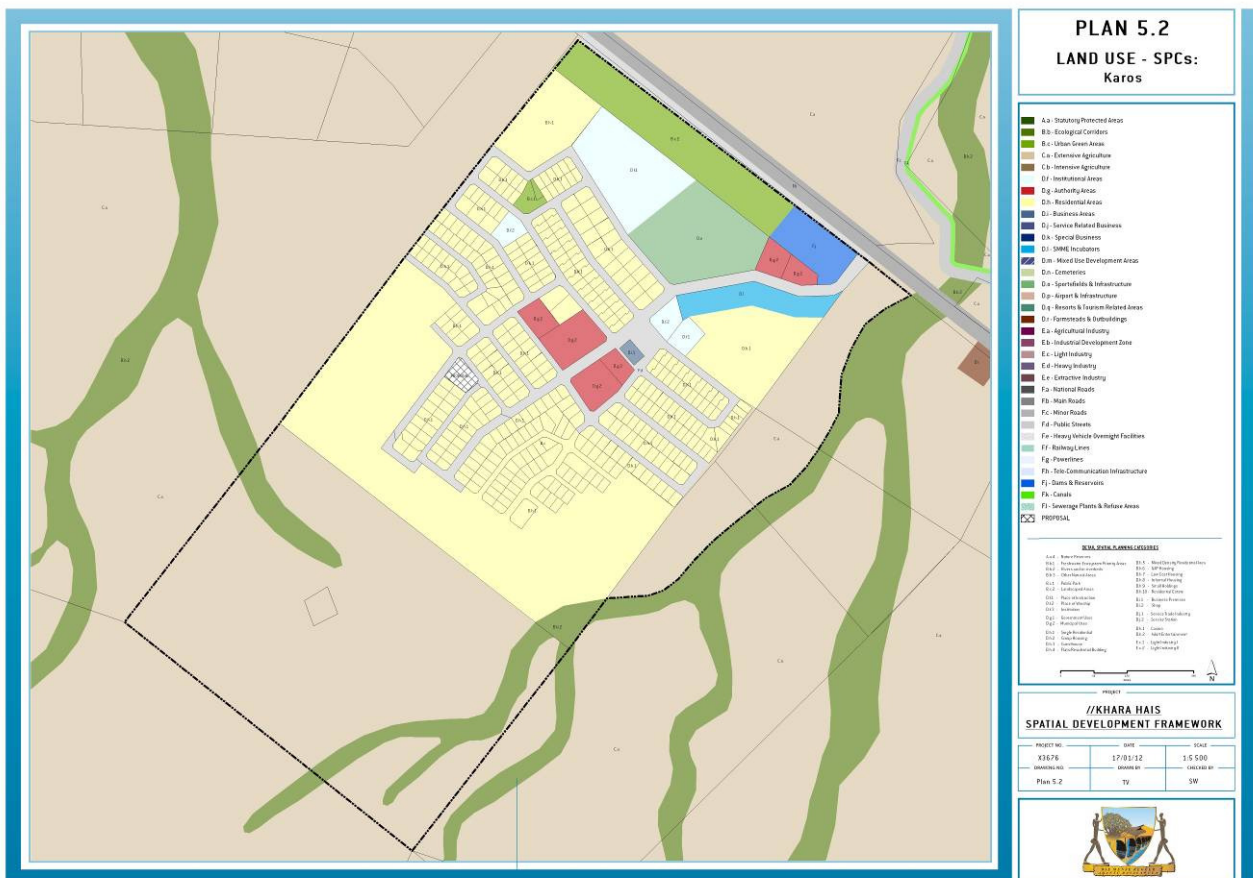
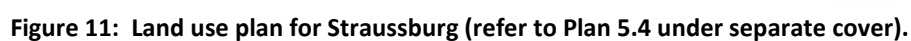
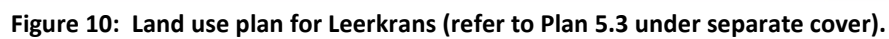


Figure 9: Land use plan for Karos (refer to Plan 5.2 under separate cover).





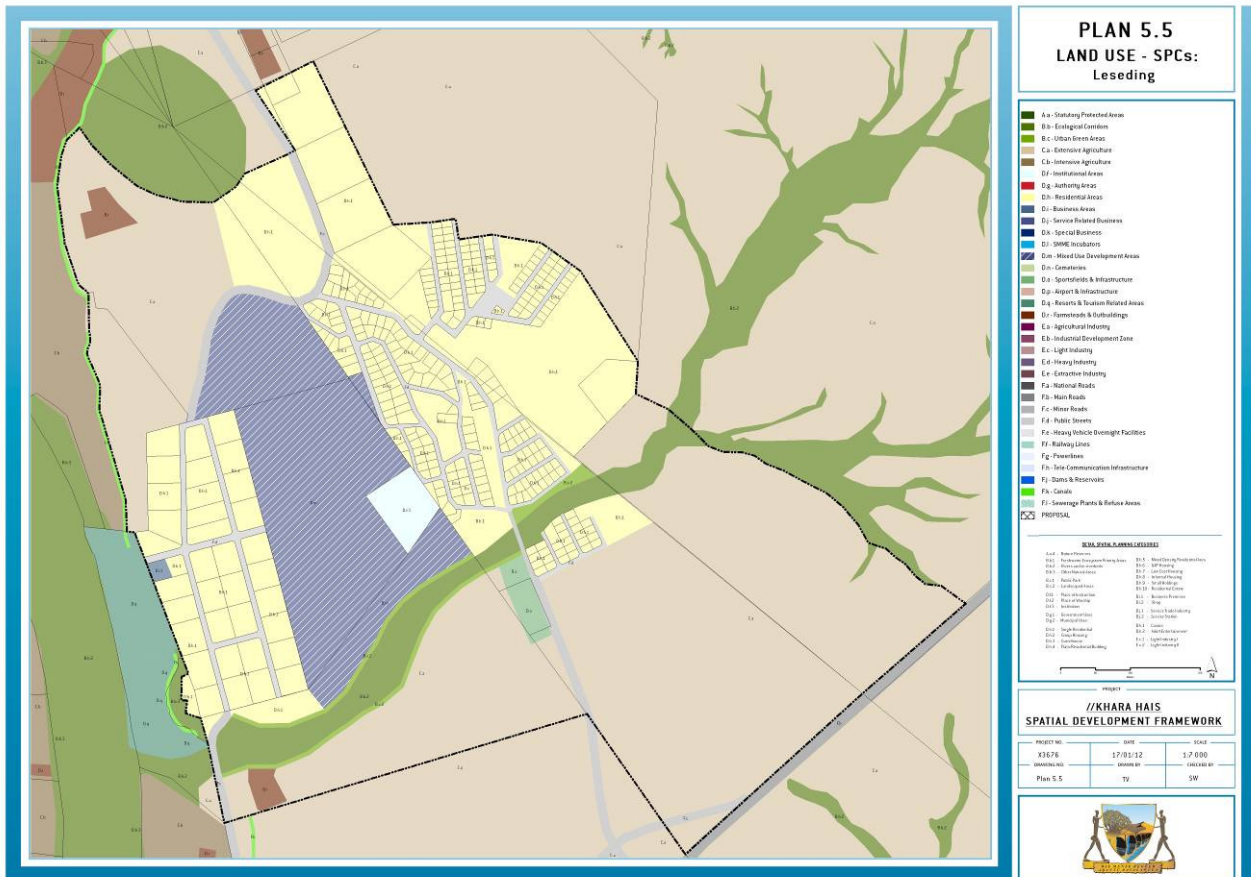


Figure 12: Land use plan for Leseding (refer to Plan 5.5 under separate cover).

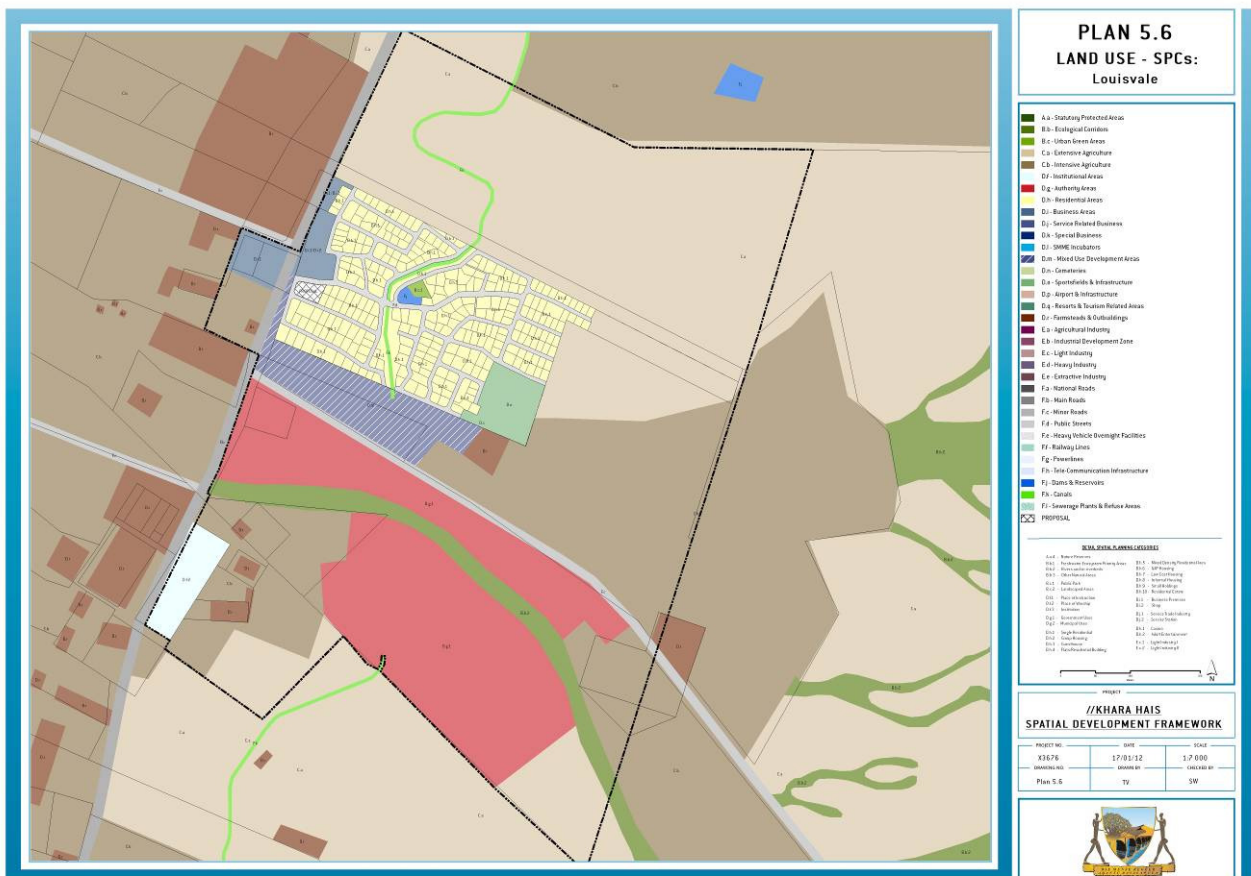


Figure 13: Land use plan for Louisvale (refer to Plan 5.6 under separate cover).



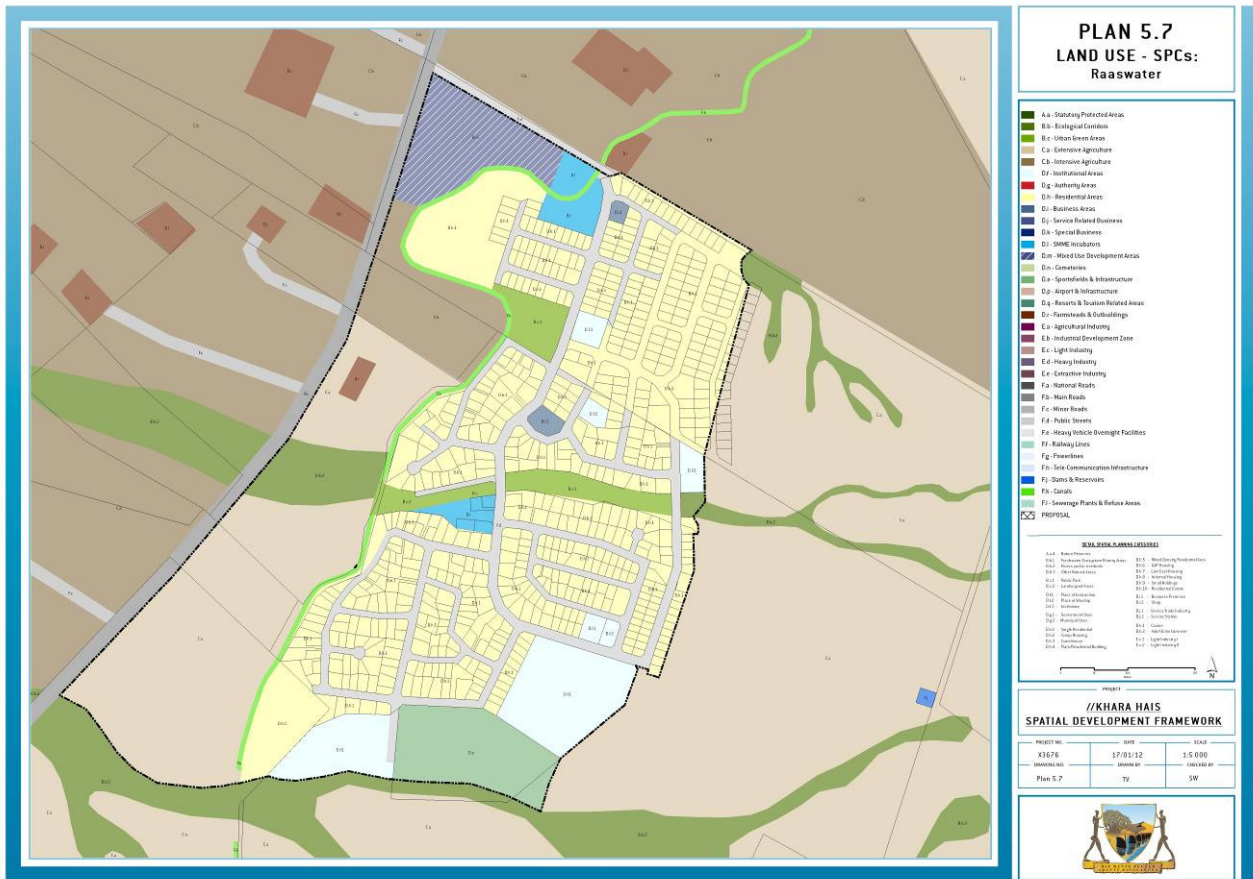


Figure 14: Land use plan for Raaswater (refer to Plan 5.7 under separate cover).

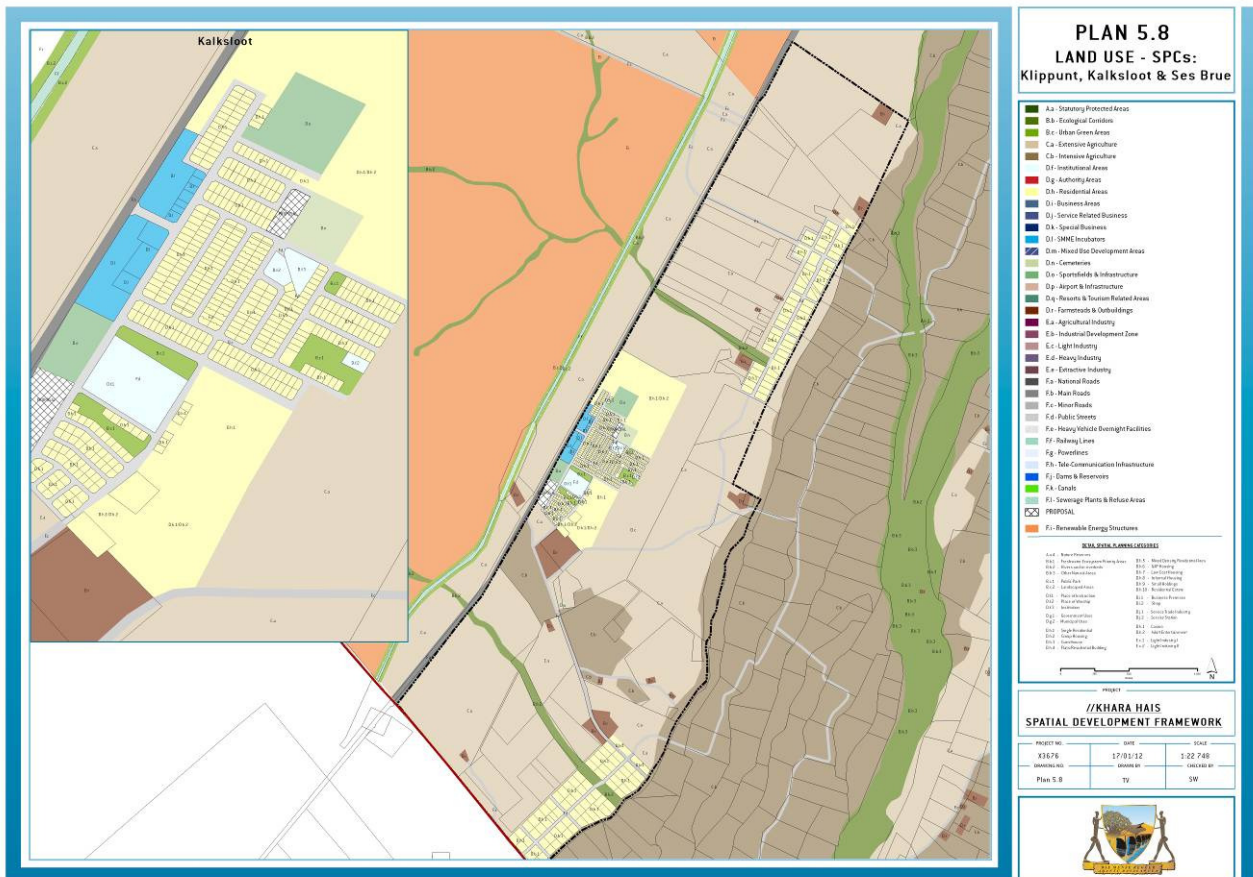


Figure 15: Land use plan for Kalksloot (refer to Plan 5.8 under separate cover).

## SECTION D: IMPLEMENTATION OF SPATIAL STRUCTURING ELEMENTS

### SECTION SYNOPSIS

This section describes the process and provides policy guidelines and plans pertaining to the implementation of elements that would facilitate appropriate spatial structuring of Upington and the other settlements in //Khara Hais Municipality. The following elements and strategies were addressed:

- a) Urban edge.
- b) Precincts.
- c) Nodes.
- d) Activity corridors.
- e) Activity streets.
- f) Municipal open space system.

A primary aim of the //Khara Hais SDF is to provide guidance to the Municipality, developers, landowners and individuals with regard to future development and urban restructuring. The objective of this is to:

- enhance and preserve the unique characteristics and qualities of Upington and the rural settlements in //Khara Hais;
- restore degraded places; and
- create high-quality places in accordance with the principles of good 'place-making' and in terms of the principles of sustainable development.

Together with the land use classification approach (the SPCs application) described in Chapter 4 above, six ***Spatial Structuring Elements*** are proposed to guide urban renewal and future development in //Khara Hais and in Upington, in particular<sup>11</sup>. The Structuring Elements are practical tools to be used by all stakeholders to help shape Upington into a settlement that is sustainable and where a high quality for its inhabitants is ensured.

The key functions of the *Structuring Elements* are to facilitate the following:

- a) Containment of urban sprawl (urban sprawl implies higher per capita cost of providing essential services and loss of valuable agricultural or natural land).
- b) Promotion of urban and social integration by creating compact urban areas (compact urban areas, i.e. mixed use areas where a wide range of urban activities/facilities as possible are accommodated within walking distance of living areas, contributes to the accessibility of economic, social and recreational opportunities to the community).
- c) Promotion of acceptable higher densities (higher densities imply more efficient use of available urban land, natural resources and service infrastructure).
- d) Creation of quality urban environments through urban renewal and landscaping (priority should be given to the conservation and reuse of buildings, infrastructure and materials and the beautification of the urban environment through intensive landscaping).
- e) Reduction of the need for traffic movement and promotion of pedestrian and non-motorized movement patterns (the price signals of transport, such as construction costs and cost of petrol given by the transport market, because they ignore environmental costs, mislead the users into believing that personal mobility is cheaper than it really is).

<sup>11</sup> Although the *Spatial Structuring Elements* are particularly relevant to the town of Upington, elements thereof can also be implemented in the smaller rural settlements in //Khara Hais, e.g. Kalksloot, Raaswater, Louisvale, Leerkrans, Karos and Lambrechtsdrift.

- f) Restoration and maintenance of a defined sense of place (urban areas must reflect the culture-historical character of the area and its people and unique local land uses).
- g) Alleviation of poverty and inequality (future urban development should improve the state of any given situation within the context of the constitutional imperative of promoting both human well-being and environmental integrity).
- h) Protection and enhancement of the properties and investment of all inhabitants by *inter alia* preventing inappropriate development or land-use in the proximity of such properties and promoting renewal/upgrading of existing development that detracts from the overall value and integrity of an area.
- i) Enhancing and simplifying decision-making regarding development applications, e.g. a rezoning application for a guesthouse within a designated Hospitality Corridor will only be subject to the guidelines and principles relevant to Hospitality Corridors as documented in this SDF (refer to Chapter 8.3 below). Applications that are not consistent with the designated *Spatial Structuring Elements* will be subject to standard directives, including the //Khara Hais Scheme Regulations.

The figure below summarises the *Spatial Structuring Elements* to be implemented and maintained in //Khara Hais.

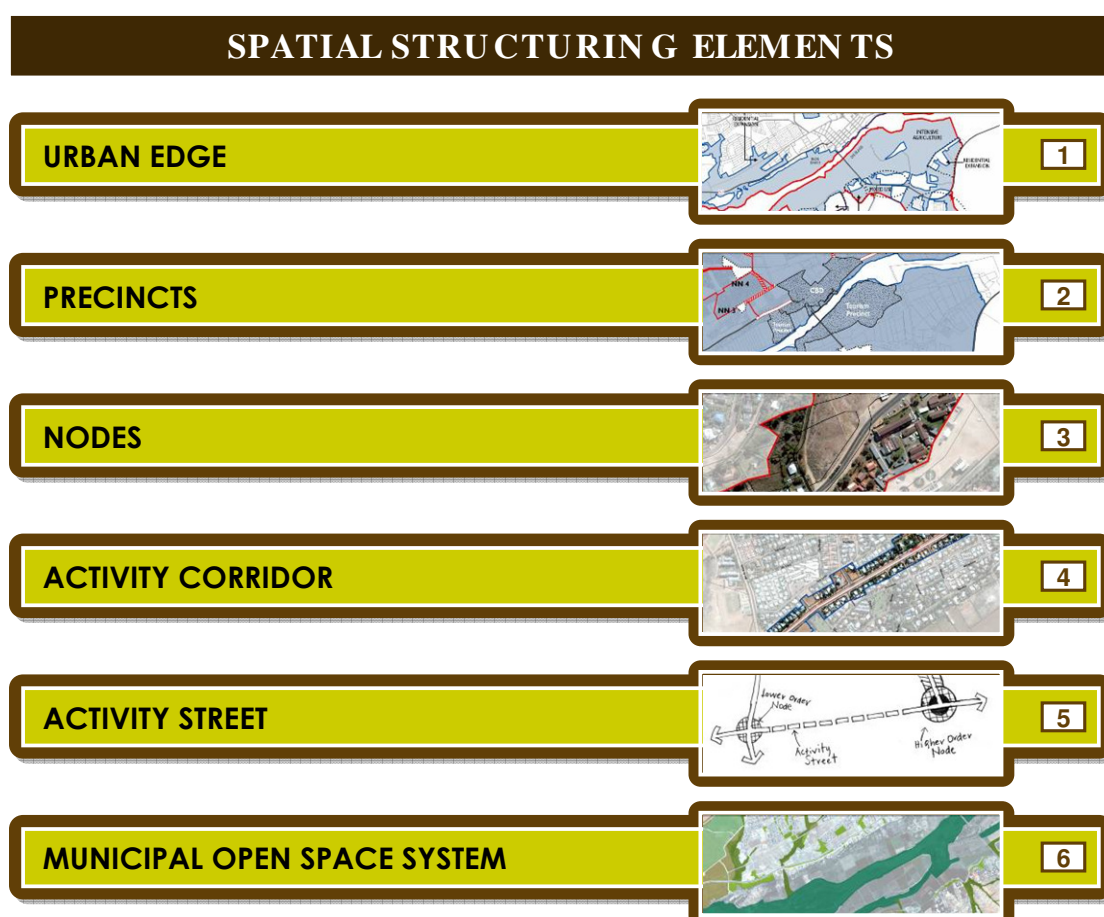


Figure 16: Spatial Structuring Elements applied in //Khara Hais.

In the chapters below a definition, the purpose and application value, and broad policy guidelines are provided with regard to the implementation and/or compliance with the *Spatial Structuring Elements* in the town of Upton.

## 5 URBAN EDGE

The *Urban Edge* for Uppington and the various surrounding rural settlements is the demarcated outer boundary of such urban areas and marks the transition between urban and rural land uses.

The *Urban Edge* for Uppington consists of the following components:

- Urban Edge Line:** The *Urban Edge Line* is the demarcated outer boundary within which urban expansion can be accommodated within a defined period of time.
- Built Edge Line:** The *Built Edge Line* defines the outer boundary of the existing built up area and will always be contained by, or coincide with, the *Urban Edge Line*.
- Urban Fringe:** The *Urban Fringe* is the area located between the *Urban Edge Line* and the *Built Edge Line*. The Urban Fringe is significant because it is the area in which urban expansion must be accommodated. Two defined<sup>12</sup> tracts of land both upstream and downstream of Uppington along the Gariep River are considered part of the *Urban Fringe*.

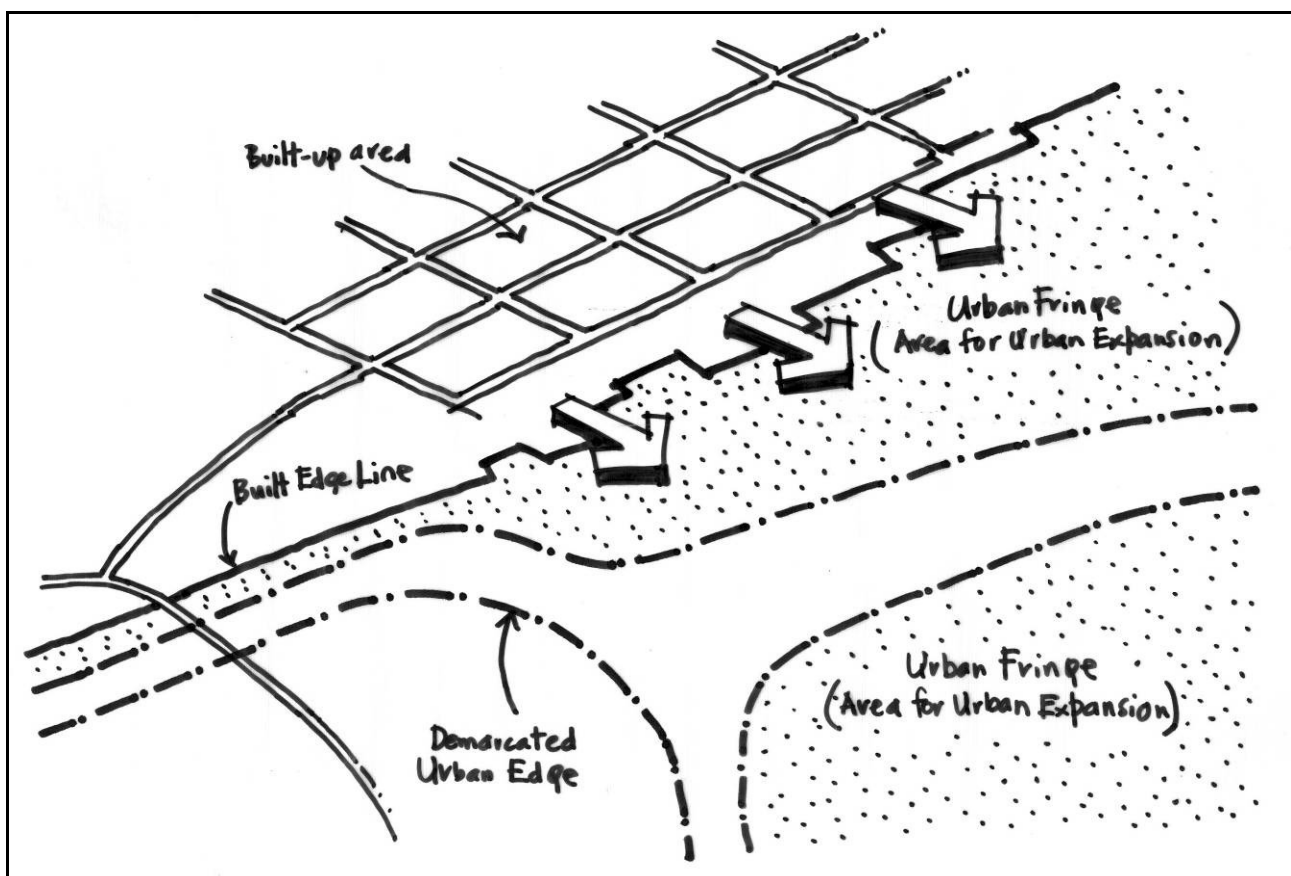


Figure 17: Components of the Urban Edge.

The *Urban Edge* was demarcated to manage, direct and control the outer limits of development and protect valuable natural environments and resources. It is also an important tool to contain urban sprawl and *ad hoc* low-density development which adds to the life cycle costs of urban areas and places an unnecessary heavy burden on communities.

<sup>12</sup> Area of 3 km long between the Gariep River and the N14 immediately adjacent to the designated urban edge.



The designated Upington urban edge illustrated by the figure below and Plan 6 makes provision for an adequate supply of vacant land that can be efficiently serviced and which can cater for the predicted population growth rate of between 2% (estimated by 2003 Demographic and Socio-Economic Survey) and 33% (estimated by 2008 Community Survey) and the associated infrastructural requirements over a 10-year period from 2010 onwards.

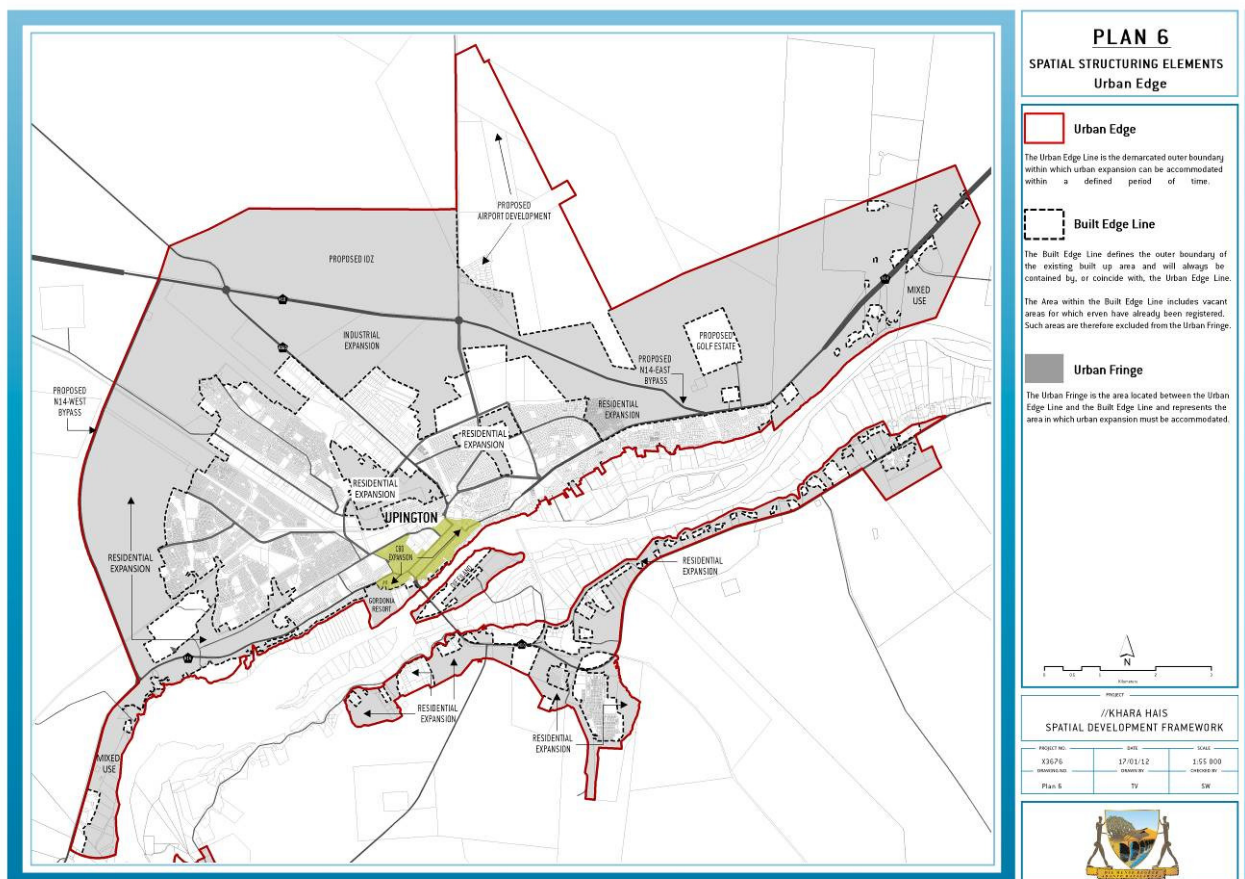


Figure 18: Urban Edge (refer to Plan 6 under separate cover).

## 5.1 URBAN EDGE POLICY GUIDELINES

The urban edge and development inside thereof will be managed in terms of the following policy guidelines:

### No. 5.1(a):

The *Urban Edge* indicated by Figure 18 and Plan 6 (appended under separate cover) will be applicable for a 10-year period from 2010-2020. It will however be subject to evaluation together with the //Khara Hais SDF on a 5-year cycle, commencing on 1 January 2010.

### No. 5.1(b):

The development types that would be considered inside the *Urban Edge* are summarized below

- Conventional urban development, i.e. general residential, business and/or industrial uses, but excluding extractive industries.
- Subdivision of infill areas.

- c) Residential estates.
- d) Golf estates.
- e) Resorts and tourism-related developments.

**No. 5.1(c):**

Development applications will be considered in accordance with the SPC Plan and the relevant policy and legislation. Any proposed change in land use and/or new development application is subject to the approval by the Municipality and must be undertaken within the policy and legislative framework of this SDF, Scheme Regulations, and all applicable legislation.

**No. 5.1(d):**

The Municipality may, at its own discretion, include a condition of approval that any proposed development project, both **inside** or **outside** the demarcated *Urban Edge*, must be undertaken as a *Sustainable Development Initiative* (SDI) (refer to Chapter 12.2 in Volume 3).

**No. 5.1(e):**

Where development applications are inconsistent with the //Khara Hais SDF, both **inside** or **outside** the demarcated *Urban Edge*, the onus will be on the applicant to prove, through a *Strategic Environmental Assessment* (SEA) and *Environmental Impact Assessment* (EIA), that the relevant application is consistent with the overarching objectives and directives of the SDF.

**No. 5.1(f):**

Planning and design of development will be undertaken in accordance with the principles described in the design framework of the Municipality (refer to Section D of Volume 1). If development proposal are considered inconsistent with these principles, the Municipality will inform the applicant about the nature and extent of the inconsistency and the avenues to be explored to find appropriate solutions.

**No. 5.1(g):**

As a point of departure, developments within the urban edge must be self-sufficient with regard to service infrastructure. Appropriate municipal services contributions will be decided upon by the Municipality should permission be granted to link a proposed development up to the municipal network.

**5.2 POLICY GUIDELINES FOR LAND USE OUTSIDE OF URBAN EDGE**

Policy and standard application guidelines exist in respect of the rezoning of agricultural land. The key objective of these guidelines and policy is to prevent fragmentation of high potential agricultural land. This is also a fundamental objective of bioregional planning, which recognises that the protection and appropriate management of high potential agricultural land are imperative for sustainable development.

The rezoning of agricultural land is generally based on the principle of sustainable agriculture<sup>13</sup>. This principle is based on the sustainable development equation and the concept of carrying capacity. Each agricultural unit must, in terms of existing policy, be a viable economic agricultural unit.

For //Khara Hais Municipality to consider non-agricultural development to be undertaken on SPC C areas (Agricultural land), applicants have to provide assurance that such development would not fragment high potential agricultural land and that it would significantly support the over-arching objective of environmental sustainability. The proposed development must, therefore, imply a direct, or indirect, positive impact on, for example, regional tourism, agriculture, environmental conservation and the interests of previously disadvantaged people.

The Municipality may, at its own discretion, include a condition of approval that any proposed development project **outside (or inside)** the demarcated *Urban Edge* must be undertaken as a *Sustainable Development Initiative* (SDI) (refer to Chapter 12.2 in Volume 3). As such, the rezoning of SPC C land could be an important mechanism for promoting sustainable economic development by:

- a) Providing landowners with opportunities to establish on-farm tourism-related facilities and amenities and other enterprises supportive of IDP objectives.
- b) Cross-subsidising lower-income housing and amenities in Category D.c (On-farm settlements) and D.f (Residential areas). This includes providing on-farm opportunities for farm workers to obtain property.
- c) Facilitating the establishment and management of SPC A and B areas (i.e. core conservation areas, buffer areas, ecological corridors and rehabilitation areas).
- d) Promoting tourism as a primary business enterprise by providing landowners with opportunities to establish on-farm resorts and other enterprises supportive of IDP proposals.

Development applications for land outside designated urban areas will be considered by the Municipality in terms of the guidelines listed below.

#### **No. 5.2(a):**

Development must be planned and designed in terms of the planning and design framework (refer to Section D in Volume 1), with specific reference to the principles of 'critical regionalism'. In practical terms, such development must, to the extent possible, blend in or harmonise with the biophysical characteristics of the environment. Aspects to be illustrated on plans submitted for consideration include:

- a) Location in context of surrounding environment.
- b) Design intervention aimed at ensuring that the proposed development blends in with the natural surroundings in terms of colour, use of locally occurring natural building materials and architectural style.
- c) Measures to mitigate unavoidable unsightly aspects of the proposed development.
- d) Measures to conserve energy and other essential resources.
- e) Measures for sustainable service provision.

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<sup>13</sup> **Sustainable agriculture** is an approach as well as a process through which different management and technological activities and socio-economic principles are reconciled with environmental requirements (Smyth and Dumanski, 1993).

**No. 5.2(b):**

Rezoning of land outside of the urban edge will be subject to the directives listed in the table on the following page.

**Table 6: Guidelines for rezoning of land outside of urban edge.**

SPC	GUIDELINES	PURPOSE	CONDITIONS
A.a	Rezoning to be considered under specific conditions and subject to the relevant legislation.	a) Resort I & Open Space Zone III. b) Eco-tourist facilities. c) Research.	a) Trust fund must be created and used for environmental management. b) Must be managed in accordance with an appropriate Environmental Management Plan (EMP). c) Regular environmental auditing to be undertaken. d) Must be self-sufficient with regard to provision of services.
A.b	No rezoning for development to be allowed.	a) Open Space Zone III.	
B.a	Rezoning to be considered under specific conditions and subject to the relevant legislation.	a) Resort I & Open Space Zone III. b) Eco-tourist facilities. c) Research.	a) Trust fund must be created and used for environmental management b) Must be managed in accordance with an appropriate EMP. c) Regular environmental auditing to be undertaken. d) Must be self-sufficient with regard to provision of services.
B.b	Rezoning to be considered under specific conditions and subject to the relevant legislation.	a) Resort I, II & Open Space Zone III. b) Eco-tourist facilities. c) Research. d) Residential.	a) Trust fund must be created and used for environmental management b) Must be managed in accordance with an appropriate EMP. c) Regular environmental auditing to be undertaken. d) Must be self-sufficient with regard to provision of services, or appropriate municipal services contribution must be determined by Municipality.
B.c	No rezoning to be allowed.		

C.a	Rezoning to be considered under specific conditions and subject to the relevant legislation.	a) Providing for Category D.b, D.c, D.n & D.o b) Rezoning to Open Space III (SPC A).	a) A zone of 3 km long and 1 km wide immediately adjacent to and north of the Gariep River. b) No urban sprawl to be allowed. c) New developments must form compact units. d) New developments must be undertaken in accordance with place-specific design and planning guidelines. e) Must be self-sufficient with regard to provision of services, or appropriate municipal services contribution must be determined by Municipality.
C.b	Rezoning to be considered under specific conditions and subject to the relevant legislation.	a) New farmer settlements. b) Small farming units. c) Sustainable agriculture-related practices e.g. hydroponics, nurseries, etc.	a) Must be project-based. b) Subdivided unit must be capable of sustaining economic farming. c) Development must be in accordance with place-specific design guidelines. d) Must be self-sufficient with regard to provision of services, or appropriate municipal services contribution must be determined by Municipality.

**No. 5.2(c):**

Appropriate landscaping is to be undertaken simultaneously with construction. Aspects to be illustrated on plans submitted for consideration include:

- The use of indigenous vegetation could be used to break the harsh, straight lines of buildings, i.e. for screening, water-saving measures, etc.
- Retaining as much as possible of the indigenous flora on the development site, especially in areas prone to wind-blown sand.
- The possible use of earthworks, such as berms and mounds, to add topographical interest, provide wind-shelter and screen structures.

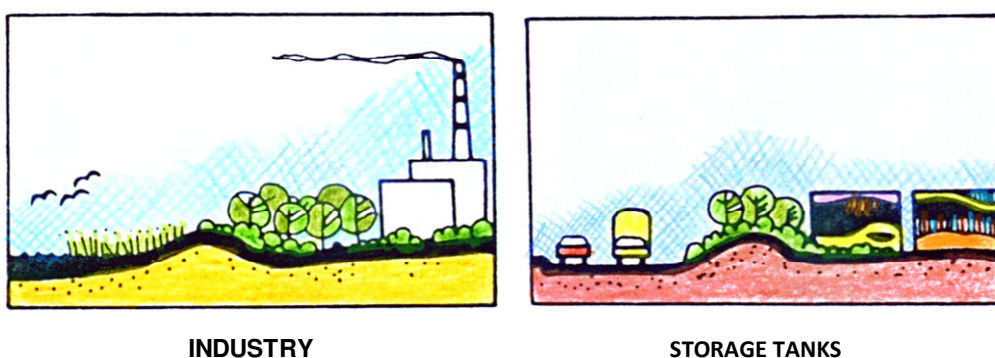


Figure 19: Use of berms and mounds to mitigate visual impact of development.

## 6 PRECINCTS

*Precincts* are special use areas, which are dominated by a primary activity together with an appropriate diversity of land uses closely associated with the primary activity. The development of such *Precincts* could influence the settlement patterns and growth of Upington and //Khara Hais Municipality as a whole. Four distinct precincts have been identified, namely:

- a) **Central Business District (CBD) of Upington**
- b) **Tourism Precinct** (This precinct consists of Die Eiland, Reitz Park, Gordonia Resort and its linkages to the Tourist Information Centre.
- c) **Airport Precinct** (This precinct consists of the envisaged business hub at the Upington Airport).
- d) **Industrial Precinct** (This precinct consists of the existing designated industrial areas and envisaged IDZ).

Figure 20 and Plan 7 (appended under separate cover) illustrate the identified precincts, and other spatial structuring elements described in the chapters below, where the associated types of development and land use are to be concentrated. The objective of this is to give effect to and comply with the planning and design framework described in Section D of Volume 1.

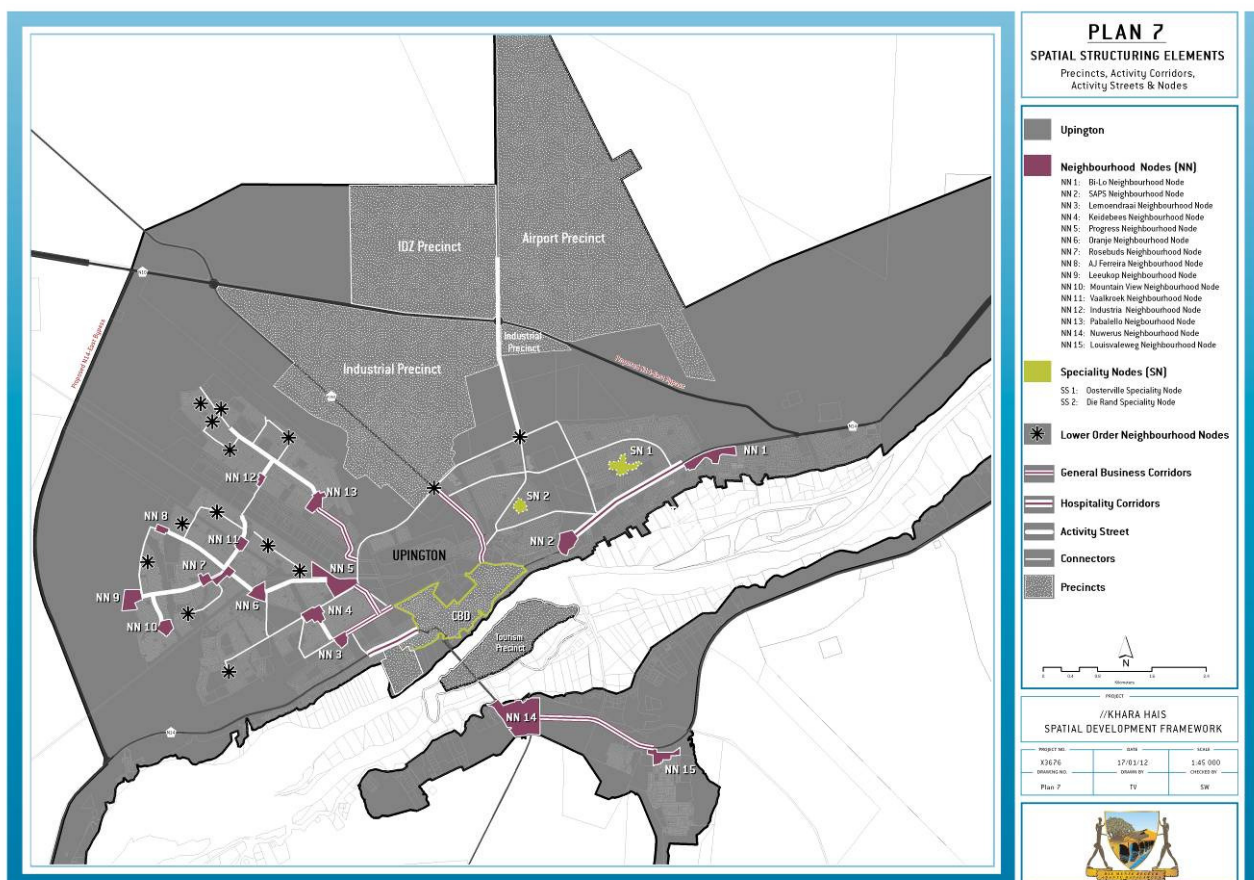


Figure 20: Compilation of spatial structuring elements (also refer to Plan 7 under separate cover).

## 6.1 POLICY

### No. 6.1(a):

Uppington CBD is to be developed in accordance with a dedicated CBD Renewal Plan which facilitates the implementation of the general development guidelines for Activity Corridors, Hospitality Corridors, Activity Streets and Nodes within the CBD. Specific attention must be given the following aspects:

- a) Reduce heavy vehicle through-traffic in the CBD by restricting it to only one or two streets (e.g. Le Roux Street).
- b) Creation of preferably basement parking areas in strategic locations within the CBD.
- c) Conversion of certain streets to pedestrian streets in order to facilitate and encourage pedestrian movement and limiting the dominance of the motor car.
- d) Detailed landscaping of the CBD – consistency in the planting, hard landscaping, lighting, street furnishing and signage will develop and enhance the identity of the CBD.

### No. 6.1(b):

Development of the CBD is to be undertaken in the directions indicated by Figure 18. This would contribute to densification, urban structuring, and economic and social integration. The integrated development of the CBD Precinct, and the development of the Activity Corridors that link it to Neighbourhood Nodes and *vice versa* must be undertaken in accordance with the guidelines listed in the preceding chapters and the planning and design framework described in Section D of Volume 1.

### No. 6.1(c):

The Tourism Precinct is to be developed in accordance with dedicated development plans (refer to Chapter 4.2 in Volume 3 for proposed project descriptions).

### No. 6.1(d):

The //Khara Hais Council may consider making available defined projects in the Tourism Precinct for public-private-community ventures undertaken in terms of the *Sustainable Development Initiative* (SDI) approach (refer to Chapter 12.2 in Volume 3).

### No. 6.1(e):

Development of SDI projects in the Tourism Precinct must benefit the community of //Khara Hais as a whole, and specifically the people of Uppington.

### No. 6.1(f):

The planning and design of the various Precincts must be undertaken in accordance with the principles described in the planning and design framework of //Khara Hais (refer to Section D of Volume 1). If development proposal are considered inconsistent with these principles, the



municipality will inform the applicant about the nature and extent of the inconsistency and the avenues to be explored to find appropriate solutions.

## 7 NODES

The bioregional planning approach adopted for the SDF requires that development planning must be undertaken in the context of five distinct levels, namely the international level, national level, provincial level, district municipal level and local municipal level. This implies that the inter-relationship of settlements or nodes should be recognized and understood. As stated in Volume 1 of the SDF, //Khara Hais is immensely important hub in the international, national, regional and local context.

The various levels of nodes applicable to //Khara Hais are as follows:

- a) **Regional Nodes:** These are areas/towns of significance in terms of scale, location, impact, diversity and agglomeration of function (facilities, services and economic activities), which have a significant impact on the Northern Cape Province as a whole. These include:
  - (i) Upington
  - (ii) Kimberley
  - (iii) Springbok
- b) **Sub-Regional Node:** These are areas/towns of significance in terms of the various districts or regions of the Northern Cape Province. These include:
  - (i) De Aar
  - (ii) Colesberg
  - (iii) Calvinia
  - (iv) Keimoes
  - (v) Kakamas
  - (vi) Kuruman
- c) **Local Nodes:** This refers to the local settlements and public places. *Higher Order Nodes* and *Lower Order Nodes* occur in //Khara Hais in the form of Upington and the various rural settlements, namely Lambrechtsdrif, Karos, Leerkrans, Louisvale, Raaswater and Kalksloot.

Within Upington *Local Nodes* occur in the form of 'junctions' or 'concentrations' of a particular use or physical character at the intersection of *Activity Corridors*, *Hospitality Corridors* and/or *Activity Streets* described below. These are strategic localities within which the primary economic activities of Upington are centered and within which the much-needed integration of the local communities is to be achieved. These *Local Nodes* are characterized by higher development densities and mixed-use activities.

Based on the significance of the particular *Local Nodes* in terms of scale, location, diversity and agglomeration of activities and services, differentiation is made between three types of *Local Nodes* (refer to Figure 20 above), namely:

- (i) **Neighbourhood Nodes:** This type of node occurs at a neighbourhood level and is intended to serve the daily economic and social needs of at least one neighbourhood.
- (ii) **Lower Order Neighbourhood Nodes:** This is a scaled down *Neighbourhood Node* and usually occurs at the intersection of *Activity Streets* and *Connectors*. Lower Order Neighbourhood Nodes are intended as a public meeting place for communities (i.e.



local corner café, church and playgrounds) with only the minimum of activities to satisfy the daily need of the particular community.

- (iii) **Speciality Nodes:** This type of node surrounds a primary activity and serves a specific market. Activities within these nodes are of a specific or specialized nature, which could be retail, professional services, health care, tourism, etc.

*Activity Corridors, Streets and Nodes* are interdependent and reliant upon each other. The corridors and streets rely on nodes along its length to generate movement and activity. In turn, nodes form the logical strategic points where economic and social investment is focused. *Activity Corridors* and *Streets* reinforce the economic efficiency and significance of *Nodes* and *vice versa*.

## 7.1 NEIGHBOURHOOD NODES POLICY GUIDELINES

*Neighbourhood Nodes* will be developed and managed in terms of the following policy guidelines:

### No. 7.1(a):

Plan 7 and Plan 7.1 to 7.15 illustrate the **Neighbourhood Nodes (NN)** in Upington (names are subject to stakeholder opinion):

- a) NN 1: Bi-Lo
- b) NN 2: SAPS
- c) NN 3: Lemoendraai
- d) NN 4: Keidebees
- e) NN 5: Progress.
- f) NN 6: Oranje
- g) NN 7: Rosebuds
- h) NN 8: AJ Ferreira
- i) NN 9: Leeukop
- j) NN 10: Mountain View
- k) NN 11: Vaalkroek
- l) NN 12: Industria
- m) NN 13: Pabellelo
- n) NN 14: Nuwerus
- o) NN 15: Louisvleweg

The figures below, illustrate selected examples of Neighbourhood Nodes in Upington.



Figure 21: Bi-Lo Neighbourhood Node and its development area (refer to Plan 7.1 under separate cover).

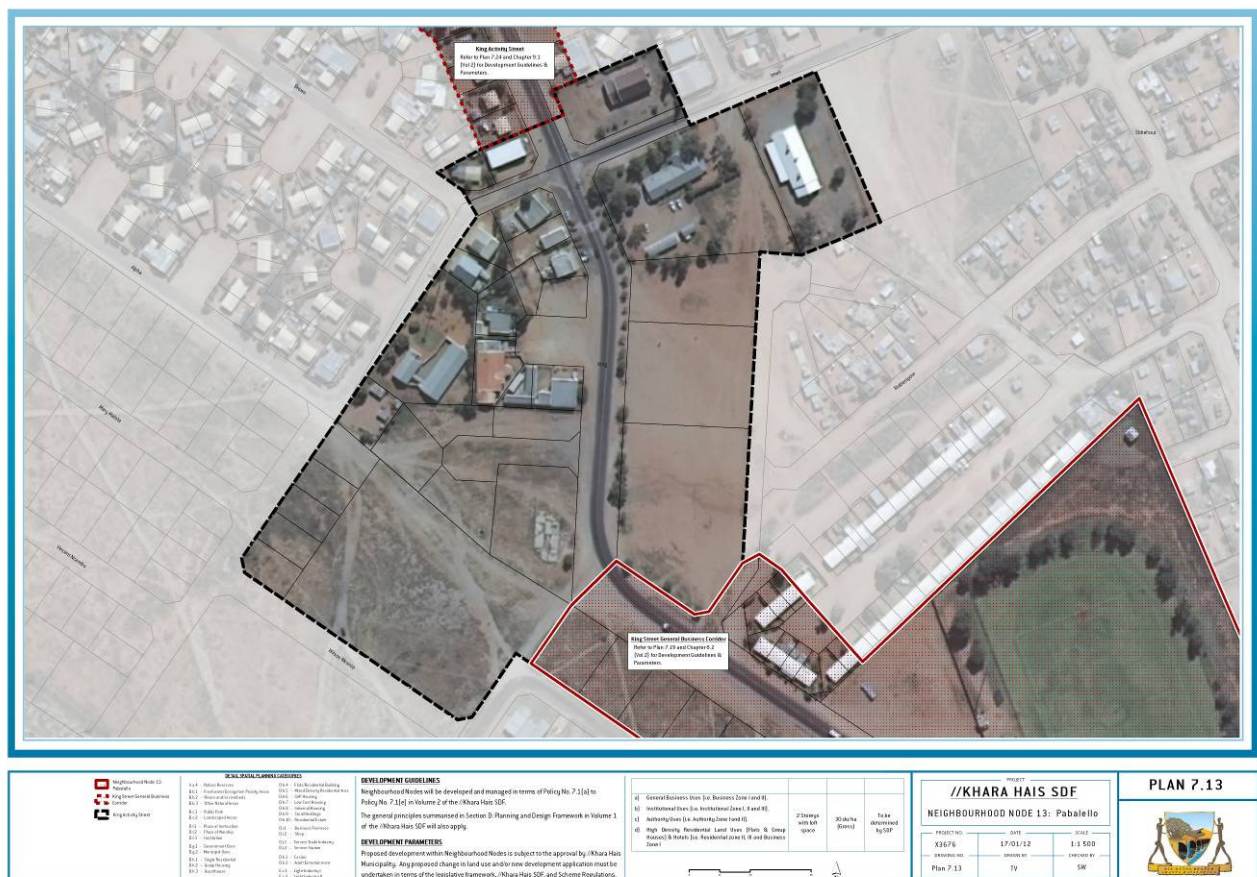


Figure 22: Pabellelo Neighbourhood Node and its development area (refer to Plan 7.13 under separate cover).

**No. 7.1(b):**

Development applications associated with the relevant *Neighbourhood Node* will only be considered for properties located within the particular node's sphere of influence.

**No. 7.1(c):**

The node must be developed from the inside outwards and the boundaries thereof will only be extended once 80% of the properties in the node have been developed in accordance with the parameters and guidelines of the respective node.

**No. 7.1(d):**

A Site Development Plan (SDP) will form part of development applications in this zone. The general development parameters applicable to development applications in *Neighbourhood Nodes* are indicated in Table 7.

**Table 7: General parameters for development in neighbourhood nodes.**

USE	HEIGHT (MAX)	DENSITY (MAX)	COVERAGE
a) General Business Uses (i.e. Business Zone I and II). b) Institutional Uses (i.e. Institutional Zone I, II and III). c) Authority Uses (i.e. Authority Zone I and II). d) High Density Residential Land Uses (Flats & Group Houses) & Hotels (i.e. Residential zone II, III and Business Zone I	2 Storeys with loft space	30 du/ha (Gross) <sup>14</sup>	To be determined by SDP

**No. 7.1(e):**

A Site Development Plan (SDP) will form part of development applications in this zone. The general development parameters applicable to development in *Lower Order Neighbourhood Nodes* are summarised in the table below.

**Table 8: General parameters for development in lower order neighbourhood nodes.**

USE	HEIGHT (MAX)	DENSITY (MAX)	COVERAGE
a) General Business Uses (i.e. Business II and III). b) Institutional Uses (i.e. Institutional Zone I, II and III). c) Authority Uses (i.e. Authority Zone I and II).	2 Storeys with loft space	30 du/ha (Gross)	To be determined by SDP

**No. 7.1(f):**

The following potential **Speciality Nodes (SN)** has been identified (refer to the figures below and Plans 7.16 and 7.17):

<sup>14</sup> du/ha (Gross) refers to the amount of dwelling units per hectare as an average for the entire project site. All internal service and social infrastructure (i.e. roads, public open spaces, etc.) required as part of the proposed development is included.



- [illegible]

**Speciality Node 1: Die Rand**

Speciality Node 1: Die Rand

RURAL ZONING REGULATIONS	
2.1.1	General
2.1.2	General
2.1.3	General
2.1.4	General
2.1.5	General
2.1.6	General
2.1.7	General
2.1.8	General
2.1.9	General
2.1.10	General
2.1.11	General
2.1.12	General
2.1.13	General
2.1.14	General
2.1.15	General
2.1.16	General
2.1.17	General
2.1.18	General
2.1.19	General
2.1.20	General
2.1.21	General
2.1.22	General
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2.1.38	General
2.1.39	General
2.1.40	General
2.1.41	General
2.1.42	General
2.1.43	General
2.1.44	General
2.1.45	General
2.1.46	General
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2.1.97	General
2.1.98	General
2.1.99	General
2.1.100	General

**DEVELOPMENT OVERLINES**

Speciality Node 1: Die Rand is developed and managed in terms of Policy No. 7.1.1 to Policy No. 7.1.10 in Volume 2 of the //Kharas Hais SDF.

The general principles contained in Section 4.1 Planning and Design Framework in Volume 1 of the //Kharas Hais SDF will also apply.

**DEVELOPMENT PARAMETERS**

Proposed development within Speciality Node 1: Die Rand is subject to the approval by //Kharas Hais Municipality. Any proposed changes in land use and/or new development application must be undertaken in terms of the legislative framework, //Kharas Hais SDF and Scheme Regulations.

Allocation of existing buildings to make provision for any land uses which are prohibited in the primary node to be used within the Speciality Node is based on the principle that if the primary buildings in the Node is a health care institution (a hospital or clinic), the municipality will consider development applications for health care related uses (a negative for general practitioners, dentists, physiotherapists, optometrists, etc.) and other light businesses.

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**No. 7.1(g):**

A Site Development Plan (SDP) will form part of development applications in this zone. The general development parameters applicable to development applications in *Speciality Nodes* are indicated in Table 9.

**Table 9: General parameters for development in *Speciality Nodes*.**

USE	HEIGHT (MAX)	COVERAGE
Alteration of existing buildings to make provision for any land uses which are directly related to the primary activity around which the <i>Speciality Node</i> is formed. This implies that if the primary activity in the Node is a health care institution (i.e. hospital or clinic), the municipality will consider development applications for health care related land uses (i.e. surgeries for general practitioners, dentists, physiotherapists, optometrists, etc.).	2 Storeys	35%

**No. 7.1(h):**

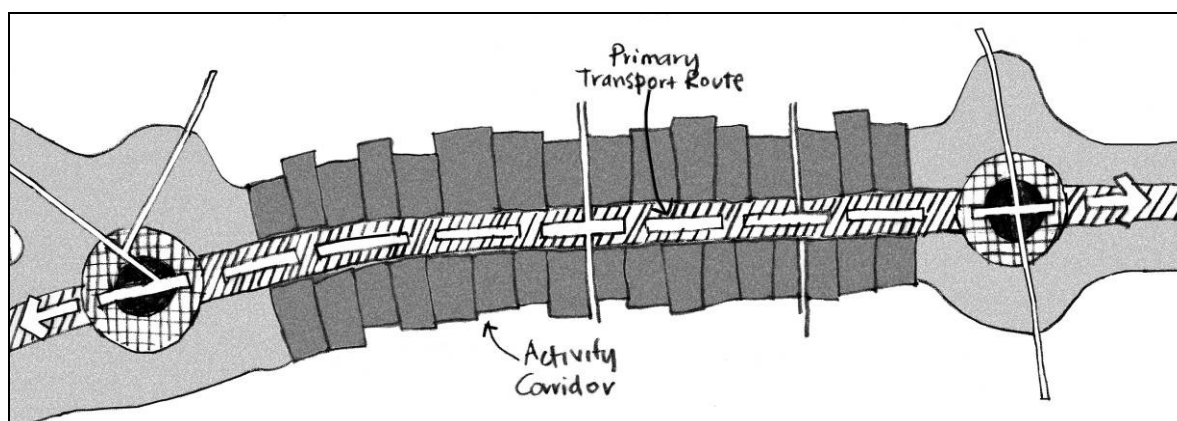
The development of all nodes should be orientated towards the street and should enhance pedestrian movement through the node. Pedestrian movement routes and bicycle paths must be incorporated into the urban design of nodes in order to link up with public transport stops.

**No. 7.1(i):**

The development of outdoor rooms – a partly enclosed place, with partial roof, columns without walls, possibly with a trellis, which is placed strategically within the node, i.e. beside an important path and within view of many homes, institutions or shops – should be incorporated into the design of nodes.

## 8 ACTIVITY CORRIDORS

An *Activity Corridor* is a linear zone of medium to high density, mixed use development abutting a primary transport route. Activity corridors link areas of greater intensity of land use, namely *Nodes* (refer to Chapter 7). In the activity corridors of Uppington a variety of social and economic functions are integrated with higher density residential functions.



**Figure 25: Drawing of typical Activity Corridor linking Nodes of high intensity land use.**

Two types of *Activity Corridors*, that reflect their primary use, are promoted in Upington, namely:

- a) **General Business Corridors:** These are medium to high density business-orientated development areas abutting either side of a primary transport route. Secondary land uses compatible with business-orientated developments, i.e. higher density residential uses, may also be considered.
- b) **Hospitality Corridors:** These are areas abutting either side of the primary transport route, where low to medium density community-based hospitality initiatives and projects are promoted and implemented. In these corridors obligations are placed on those that own hospitality-related enterprises to ensure their meaningful participation in creating an environment conducive of viable tourism and to ensure their long-term commitment in this regard.

Activity corridors are important structural elements focused on the:

- (i) Promotion of social integration,
- (ii) Increasing residential and business densities,
- (iii) Enhancing accessibility of economic and social opportunities; and
- (iv) Creating high-quality urban environments through urban renewal and intensive landscaping.

## **8.1 ACTIVITY CORRIDOR POLICY GUIDELINES**

The Activity Corridors and the development and management thereof will be undertaken in terms of the following policy guidelines:

### **No. 8.1(a):**

Development in any *Activity Corridor* is subject to the approval by the municipality. Any proposed change of land use and/or new development application must be undertaken in terms of the general legislative framework and the development guidelines and parameters of the //Khara Hais SDF.

### **No. 8.1(b):**

*Activity Corridors* are regarded as a *Speciality Zone Area* with specific development parameters.

### **No. 8.1(c):**

The typical development type allowed in *Activity Corridors* is medium to high-density mixed-use development.

### **No. 8.1(d):**

Land uses that do not comply with No.8.1(c) should be directed to appropriate *Nodes* or *Precincts*. The municipality may however consider applications for departure subject to

submission of adequate proof that the proposed land use complies with and gives effect to the intentions of the *Activity Corridor*.

**No. 8.1(e):**

Proposed land uses must complement each other aesthetically and functionally and care should be taken not to jeopardize one another. Potential noise, availability of parking, public transport and scale and nature of land use will be deciding factors in the adjudication of applications.

**No. 8.1(f):**

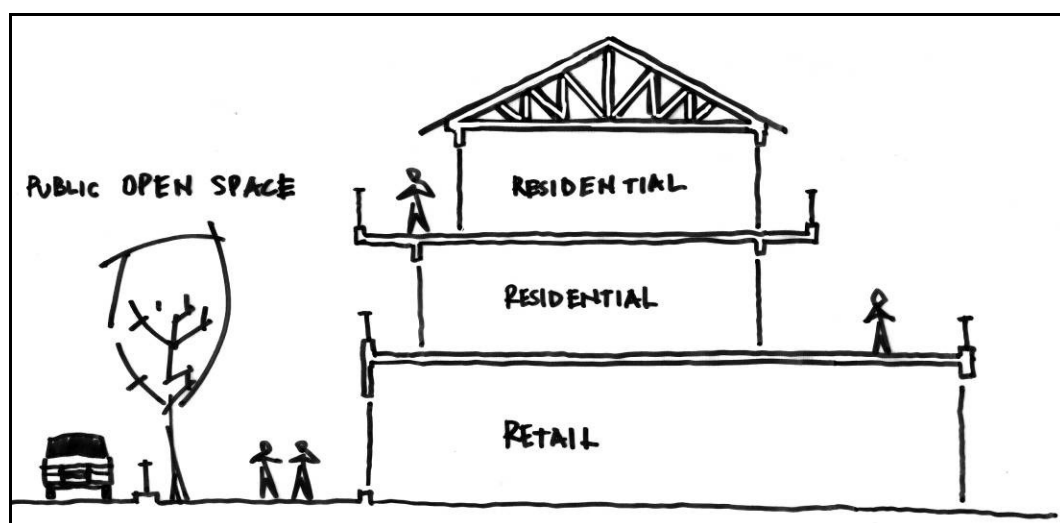
In the development of *Activity Corridors* provision must be made for free pedestrian movement and adequate public open space. In these open spaces, property owners and developers must contribute to the implementation and maintenance of the //Khara Hais Landscape Plan upon completion.

**No. 8.1(g):**

Activity corridors must be characterized by its spatial qualities (i.e. positive outdoor spaces, defined streets and squares, built form that encourages a high level of natural surveillance over the public realm, etc.), façade characteristics, visual prominence and their position in the overall structure of the town.

**No. 8.1(h):**

Activity Corridors are the main focus for densification. The development densities proposed as part of the development parameters for Activity Corridors must be promoted where contextually appropriate. Higher densities do not necessarily imply high-rise development. Acceptable levels of densification can be achieved through well-designed low-rise development. Multi-storey developments (i.e. between two and three storeys) should be considered, especially closer to *Nodes*. Surrounding land uses must however be taken into consideration.



**Figure 26: Illustration of typical Medium to Higher Density Mixed-Use Development in General Business Corridors.**



**No. 8.1(i):**

Where buildings exist, covered walkways (arcades) or pergolas should be constructed and used to connect buildings to one another. Covered walkways not only play a vital role in the way that people interact with buildings, but also provide shelter from natural elements, i.e. rain & sun.

**No. 8.1(j):**

Lateral enclosure and edge continuity are to be promoted by placing building fronts right up to the street at slightly uneven angles (refer to Figure 22 in Volume 1).

**No. 8.1(k):**

Sidewalks must permit people to walk at varying paces, including most importantly a leisurely pace with neither a sense of crowding nor of being alone. Pedestrians must also be safe, primarily from vehicles. Therefore, sidewalks must be as wide as possible with low walls, railings or balustrades placed along the edges thereof where possible.

**No. 8.1(l):**

Where a pedestrian path crosses a road that has enough traffic to create more than a two second delay to people crossing, a 'knuckle' is to be created at the crossing, by inter alia narrowing the road to the width of the through-lanes only; continuing the pedestrian path through the crossing about 300 mm above the roadway; creating islands between lanes; sloping the road up toward the crossing 1:6 maximum, and marking the path with a canopy or shelter to make it visible.

**No. 8.1(m):**

Street furniture such as signage, external lights, bollards, benches, litter bins, tree guards or outside furniture should be designed in a co-ordinated manner, also consider applying a standard colour scheme to all street infrastructure.

**No. 8.1(n):**

Landscaping is to be used to create a sense of place and enclosure in *Activity Streets* where the role of vehicles cannot be reduced. Trees are to be planted as close as possible to the road verge in order to define the edge of pedestrian and vehicular routes (refer to the figure on the following page).





Figure 27: Scott Street before and after proposed landscaping intervention.

## 8.2 GENERAL BUSINESS CORRIDORS

The following policy guidelines for **General Business Corridors** apply:

### No. 8.2(a):

Sections of the following streets have been identified as **General Business Corridors** (refer to figures below and Plans 7.18 to 7.21):

- (i) Le Roux / Swartmodder (refer to Plan 7.18).
- (ii) King (refer to Plan 7.19).
- (iii) Oranje and Keimoes (refer to Plan 7.20).
- (iv) N10 (refer to Plan 7.21).



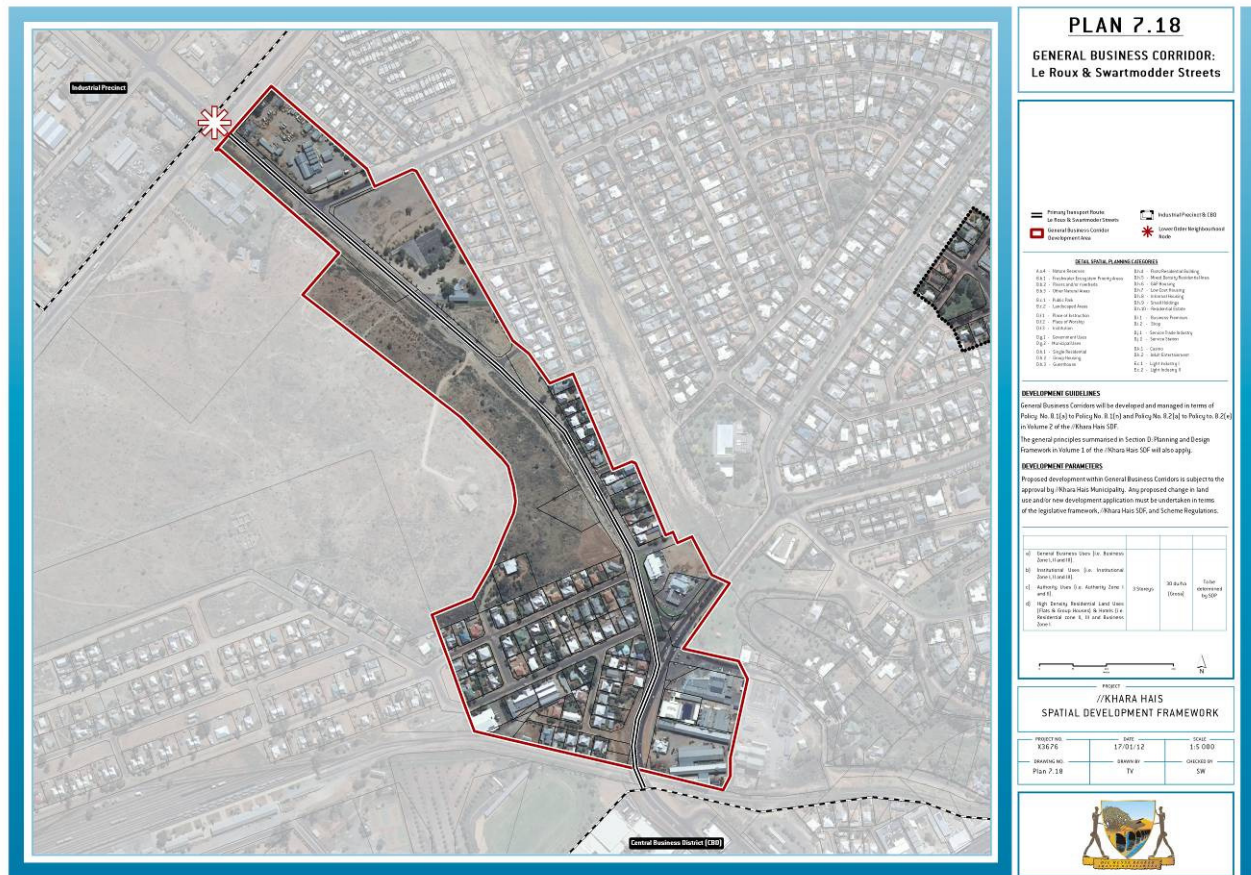


Figure 28: Le Roux / Swartmodder General Business Corridor (refer to Plan 7.18).

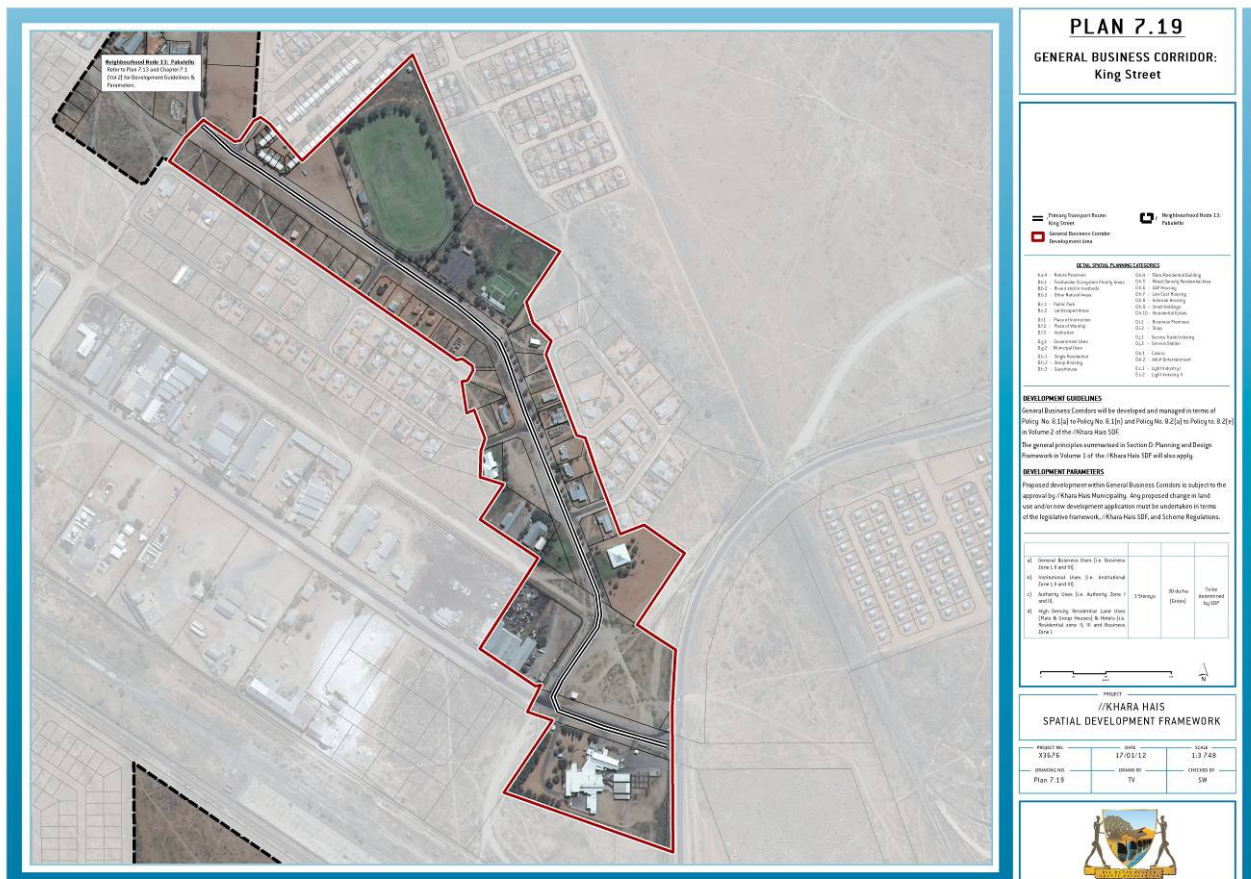


Figure 29: King Street General Business Corridor (refer to Plan 7.19).



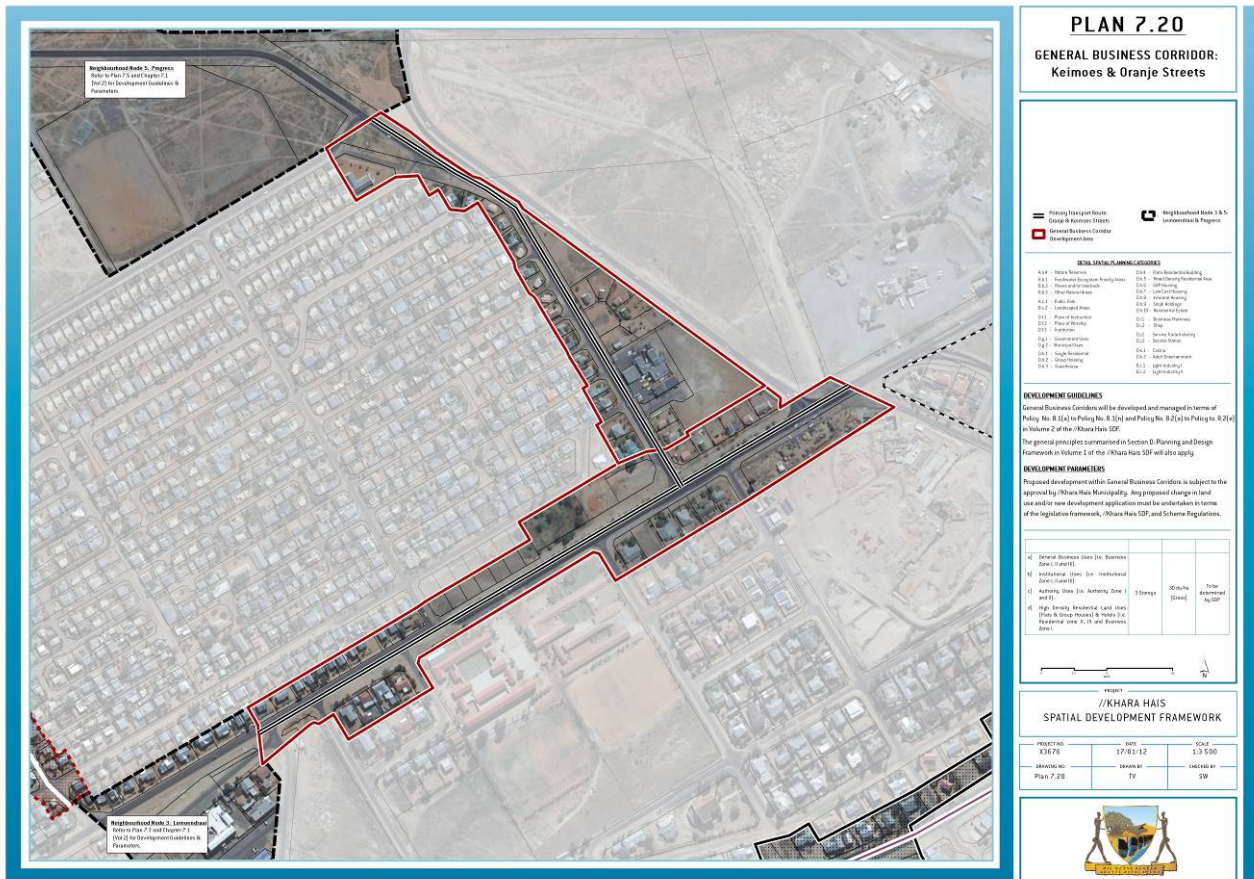


Figure 30: Keimos and Oranje Streets General Business Corridor (refer to Plan 7.20).

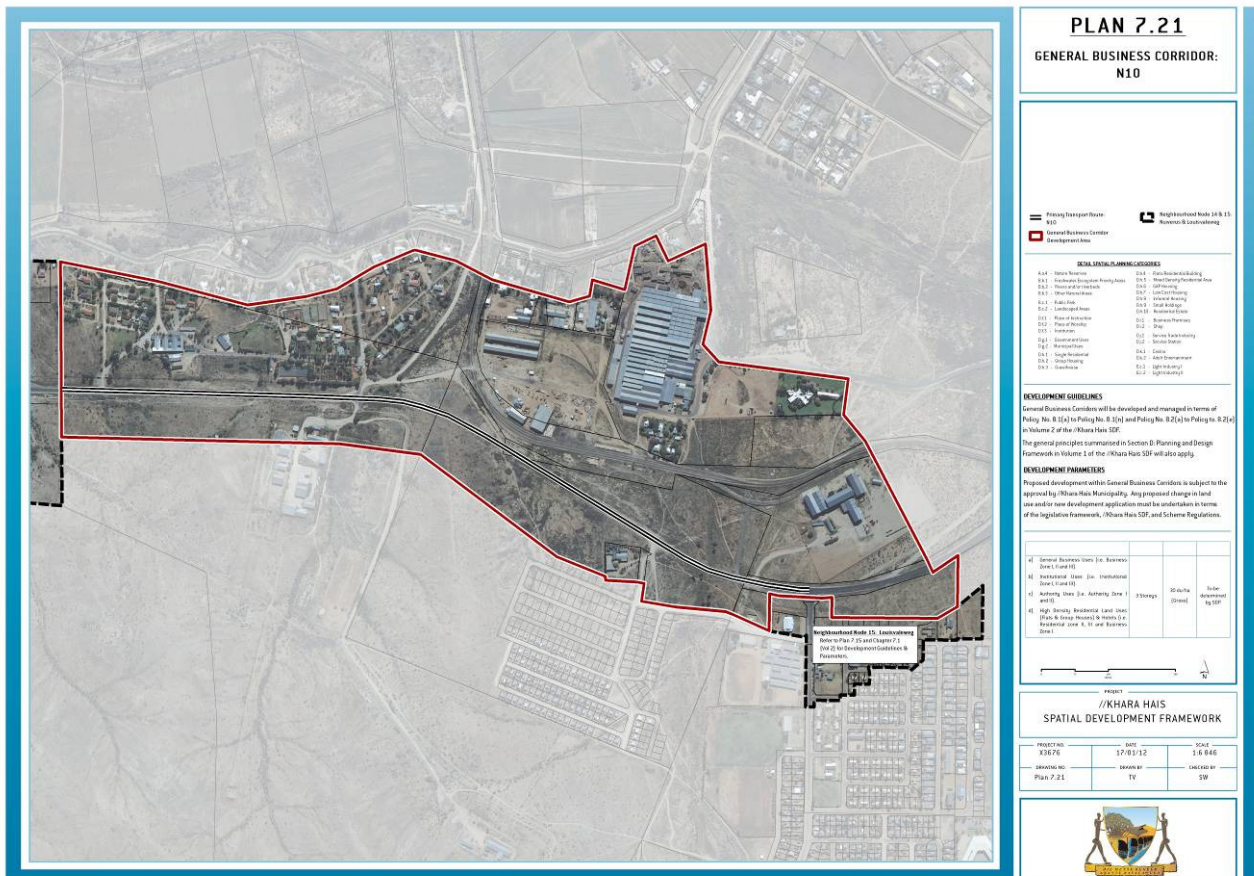


Figure 31: N10 General Business Corridor (refer to Plan 7.21).

**No. 8.2(b):**

*General Business Corridors* include the first row of properties abutting each side of the primary transport route.

**No. 8.2(c):**

The general development parameters applicable to development applications in the *General Business Corridor* are indicated in Table 10 below.

**No. 8.2(d):**

Adequate parking must be provided. Parking areas should wherever possible be placed in basements and/or to the back of properties. The provision of parking is subject to the //Khara Hais Scheme Regulations and development guidelines of this SDF.

**No. 8.2(e):**

A Site Development Plan (SDP) will form part of development applications in this zone. The municipality may consider a departure from the development parameters in the table below if adequate proof were provided that such departure is justified.

**Table 10: General development parameters for development applications in the General Business Corridor.**

USE	HEIGHT (MAX)	DENSITY (MAX)	COVERAGE
a) General Business Uses (i.e. Business Zone I, II and III). b) Institutional Uses (i.e. Institutional Zone I, II and III). c) Authority Uses (i.e. Authority Zone I and II). d) High Density Residential Land Uses (Flats & Group Houses) & Hotels (i.e. Residential zone II, III and Business Zone I.	3 Storeys	30 du/ha (Gross)	To be determined by SDP

### 8.3 HOSPITALITY CORRIDORS

The figures below and Plan 7.22, Plan 7.23 and Plan 7.24 illustrate the identified **Hospitality Corridors** in Upington. These consist of sections of the following streets:

- Schröder Street (N14-east) and Middelpoort Hospitality Corridor (Figure 36 illustrates the possible landscaping of Schröder Street).
- Gariiep River Hospitality Corridor.
- Lemoen Street (N14-west) (Figure 35 illustrates the possible landscaping of Lemoen Street).
- Kurumanrivier Hospitality Corridor (this Hospitality Corridor stretches all along the length of the R31 as it crosses the northern parts of the //Khara Hais Municipality).







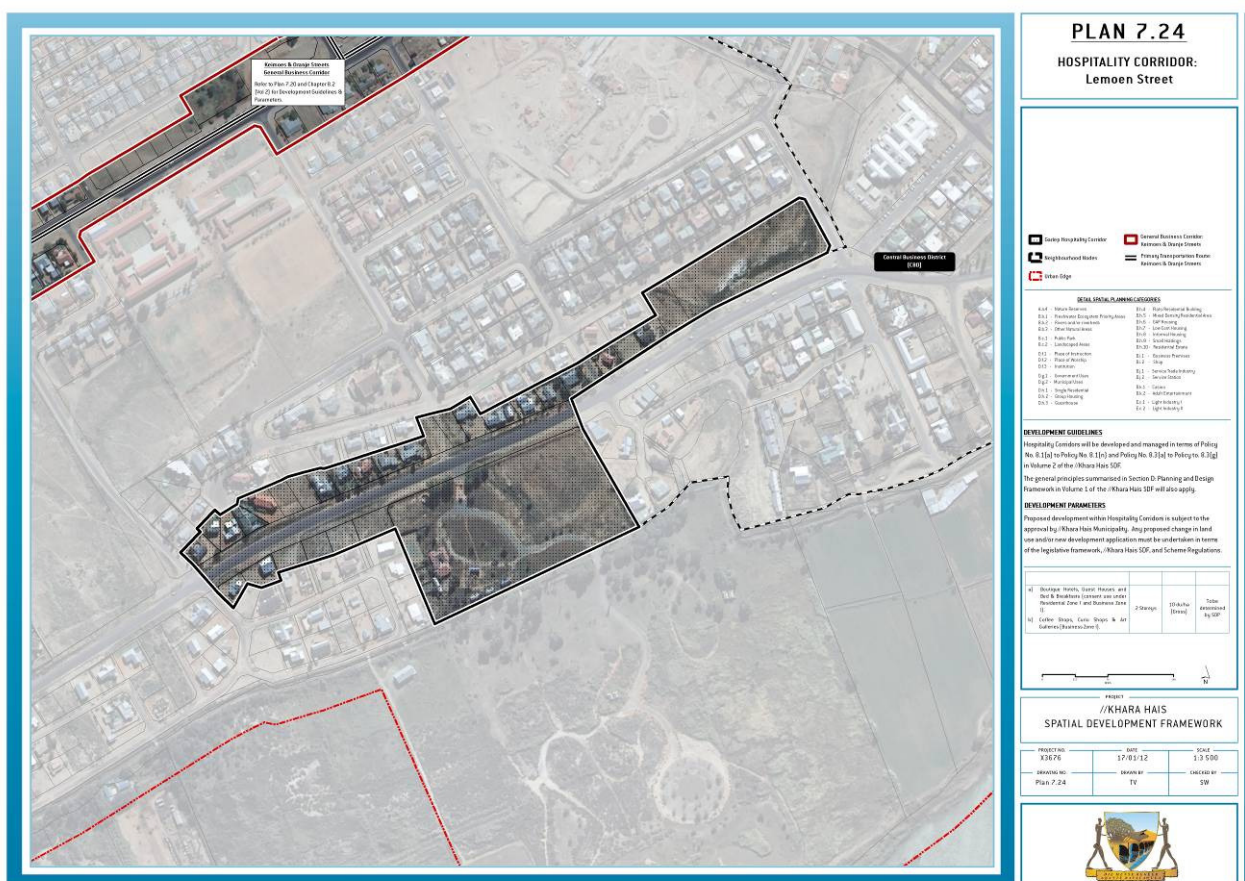


Figure 34: Lemoen Street Hospitality Corridor (refer to Plan 7.24 under separate cover).

The Hospitality Corridors and the development and management thereof will be undertaken in terms of the following policy guidelines:

**No. 8.3(a):**

*Hospitality Corridors* include the first row of properties abutting each side of the primary transport route.

**No. 8.3(b):**

The general development parameters applicable to development applications in the *Hospitality Corridor* are summarised in the table below.

Table 11: General parameters for development in the Hospitality Corridor.

USE	HEIGHT (MAX)	DENSITY (MAX)	COVERAGE
a) Boutique Hotels, Guest Houses and Bed & Breakfasts (consent use under Residential Zone I and Business Zone I).	2 Storeys	10 du/ha (Gross)	To be determined by SDP
b) Coffee Shops, Curio Shops & Art Galleries (Business Zone I).			

**No. 8.3(c):**

A Site Development Plan (SDP) will form part of development applications within this zone. The municipality may consider a departure from the development parameters in Table 11 if adequate proof were provided that such departure is justified.

**No. 8.3(d):**

In designated Hospitality Corridors the policy pertaining to the requirement that the owner must reside on the premises does not apply.

**No. 8.3(e):**

In Hospitality Corridors there should be a focus on innovative landscaping that will enhance the quality of the environment and the hospitality product as a whole. The figures below illustrate the type of interventions that could be implemented.







**Figure 35: Lemoen Street before and after landscaping.**







**Figure 36: Schröder Street before and after landscaping.**

**No. 8.3(f):**

Adequate provision must be made for parking on-site. Parking areas should preferably be placed in basements and/or to the back of properties. Small landscaped parking areas to the front of properties may also be considered. The provision of parking for each development application is subject to the //Khara Hais Scheme Regulations and development guidelines of the //Khara Hais SDF.

**No. 8.3(g):**

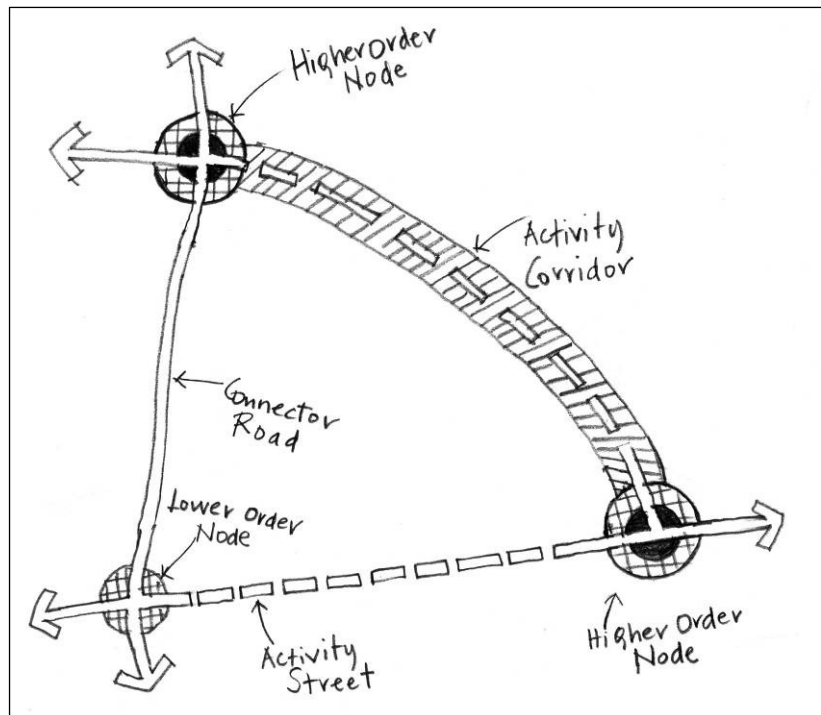
Development applications must describe how consideration was given in the planning and design of the surrounding land uses and must illustrate how the proposed development will contribute towards the sense of place of the surrounding area and to the enhancement of environmental integrity in general.

## 9 ACTIVITY STREET

An Activity Street is a local road that displays the same characteristics and principles of linearity and mixed use development than an activity corridor, but with a lower level of intensity of use and market threshold. It attracts enough passing trade to provide viable opportunities for local business and community facilities.

*Activity Streets* play a vital function in linking previously isolated communities at the local level and provide appropriate locations for small and informal enterprises. It reinforces *Higher* and *Lower Order Nodes* and strengthens the integration of communities and the accessibility to economic, cultural and social functions.

*Activity Streets* are linked by *Connectors* which are primarily main streets that carry through-traffic and have the capacity to handle higher traffic volumes. *Connectors* play a key role in the spatial structuring of urban areas by linking the Spatial Structuring Elements of *Activity Corridors*, *Activity Streets*, *Nodes* and *Precincts*.



**Figure 37: Drawing of typical Activity Street as it links with Lower Order Nodes, Higher Order Nodes, Activity Corridors and Precincts.**

Sections of the following streets have been identified as **Activity Streets**:

- a) Borchard Street.
- b) King Street
- c) Vundisa Street.
- d) Oranje Street.
- e) Leeukop Street.
- f) Silkaatskop Street.
- g) Kosmos Street.

Plans 7.25 to 7.29 (appended under separate cover) indicate the designated Activity Streets in Upington. The figures below illustrate selected examples of Activity Streets in Upington.



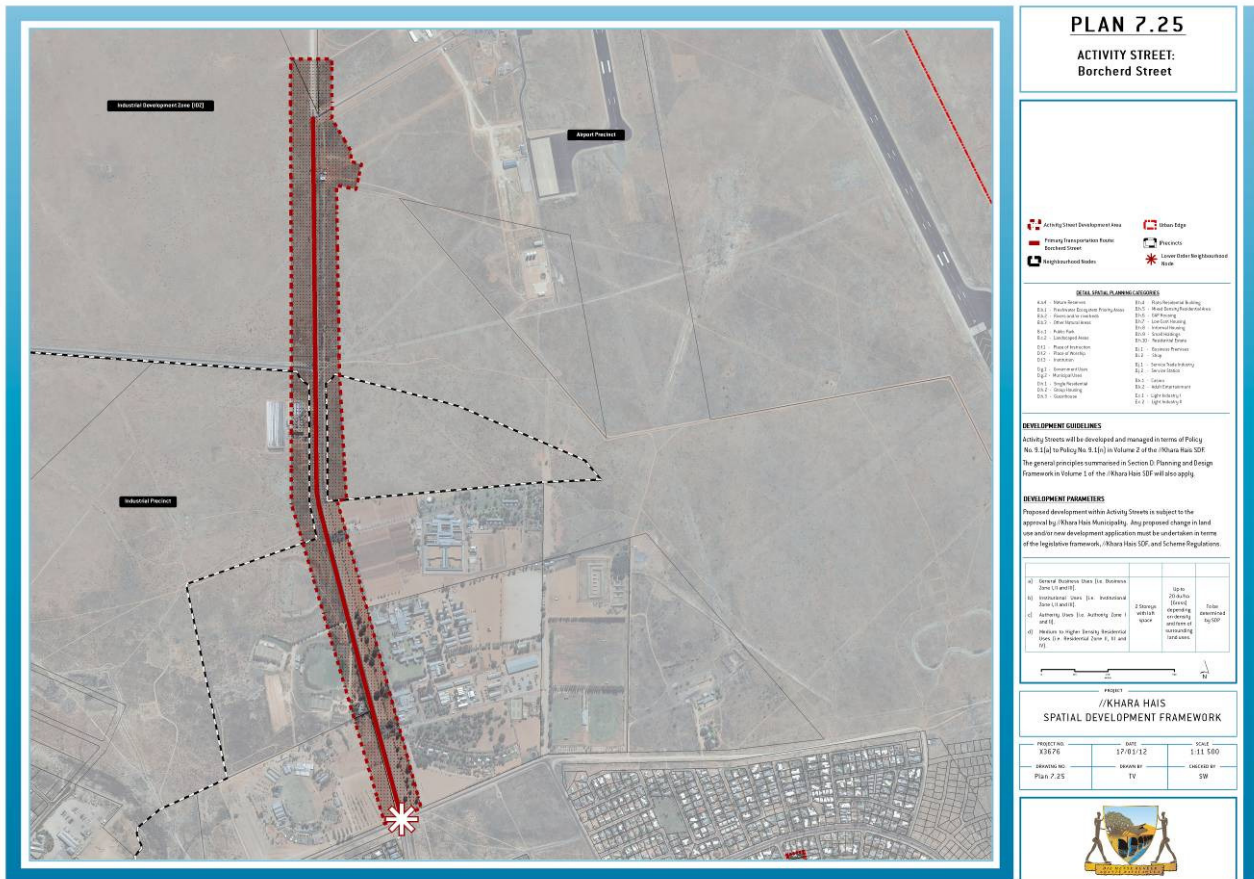


Figure 38: Borcherd Activity Street (refer to Plan 7.25 under separate cover).

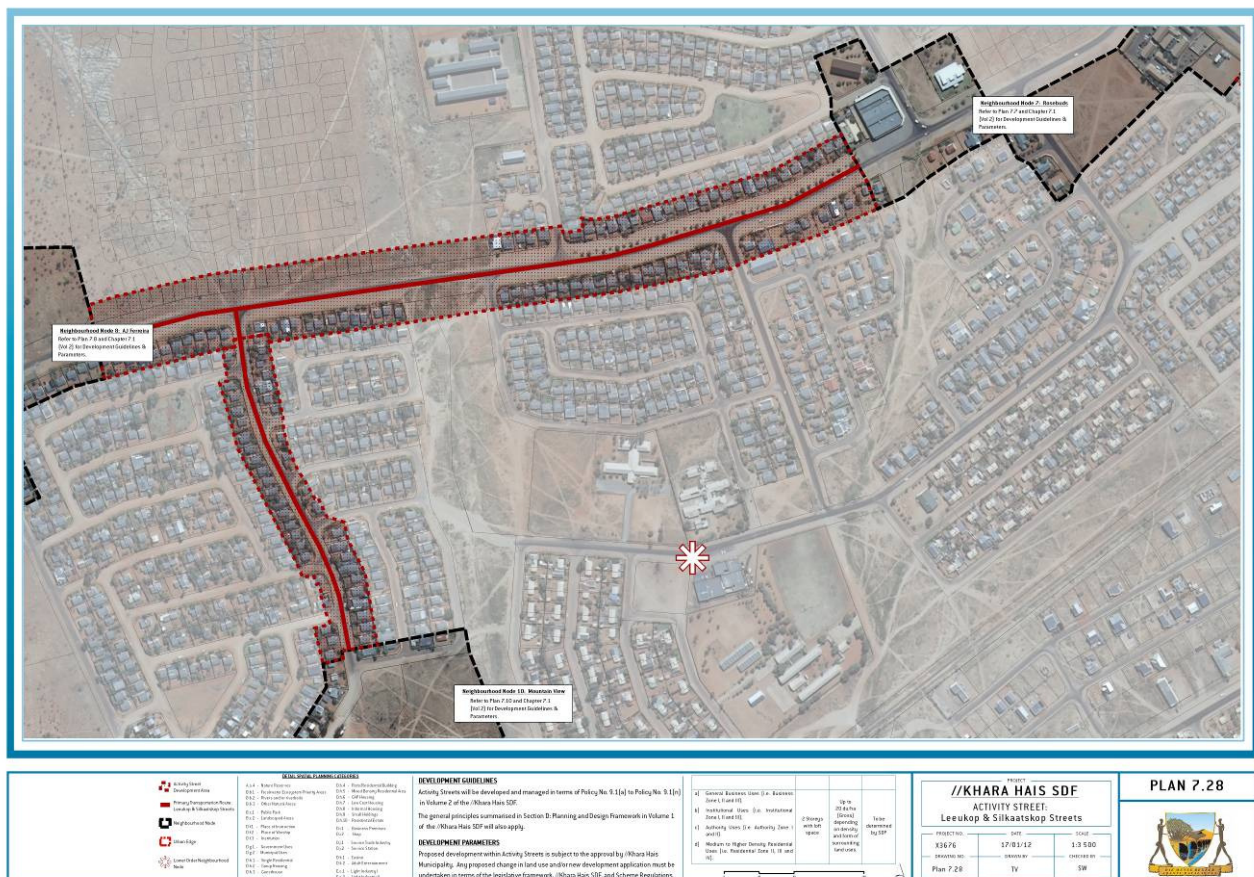


Figure 39: Leeukop & Silkaatskop Activity Street (refer to Plan 7.28 under separate cover).

## 9.1 ACTIVITY STREET POLICY GUIDELINES

*Activity Streets* will be developed and managed in terms of the following policy guidelines:

### No. 9.1(a):

*Activity Streets* includes the first row of properties abutting each side of the primary transport route.

### No. 9.1(b):

The general development parameters applicable to development applications in the *Activity Streets* are summarised in the table below.

**Table 12: General parameters for development in Activity Streets.**

USE	HEIGHT (MAX)	DENSITY (MAX)	COVERAGE
a) General Business Uses (i.e. Business Zone I, II and III).	2 Storeys with loft space	Up to 20 du/ha (Gross) depending on density and form of surrounding land uses.	To be determined by SDP
b) Institutional Uses (i.e. Institutional Zone I, II and III).			
c) Authority Uses (i.e. Authority Zone I and II).			
d) Medium to Higher Density Residential Uses (i.e. Residential Zone II, III and IV).			

### No. 9.1(c):

Parking requirements applicable to each development application is subject to the //Khara Hais Scheme Regulations and development guidelines of this SDF.

### No. 9.1(d):

A comprehensive Site Development Plan (SDP) will be included in each application for development adjacent to *Activity Streets*. The municipality may consider a departure from the development parameters in Table 12 if adequate proof were provided that such departure is justified.

### No. 9.1(e):

Any proposed change of land use and/or new development is subject to approval of the municipality in terms of the general legislative framework, //Khara Hais Scheme Regulations and the development guidelines and parameters of this SDF.

**No. 9.1(f):**

All *Activity Streets* must be regarded as a *Speciality Zone Area* with the development parameters stipulated in Table 12 above.

**No. 9.1(g):**

New land uses may not have a negative impact on surrounding development and associated land use.

**No. 9.1(h):**

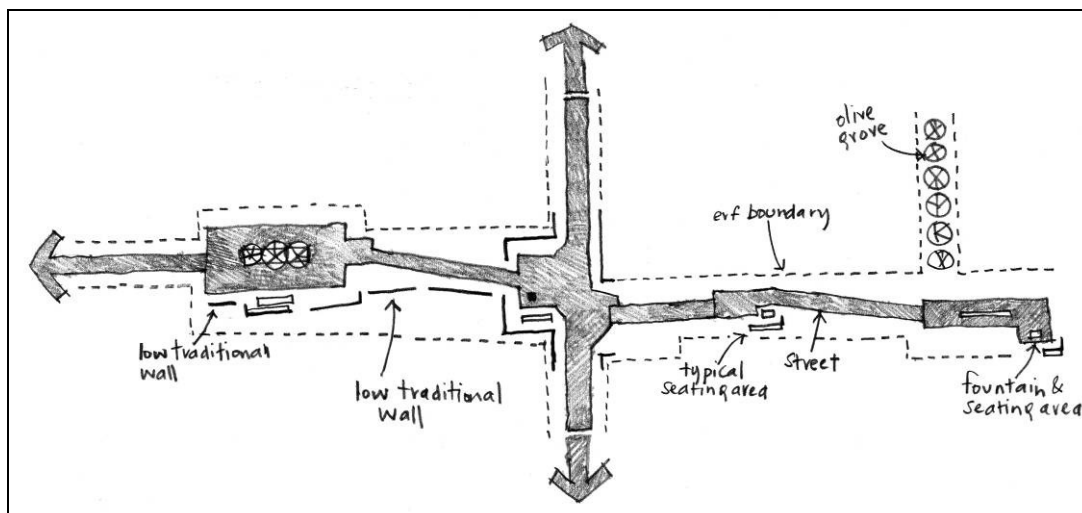
New development should focus on lower-order services, amenities, and retail and commercial uses. Residential use is also encouraged and this should take the form of low-rise, high density development such as town houses and low rise flats.

**No. 9.1(i):**

The development of *Activity Streets* must be considered in the context of the phased growth and development of *Activity Corridors* and its associated *Nodes* and must be informed by the overall economic and spatial planning objectives of //Khara Hais. The development of *Activity Streets* should only be allowed after its associated *Nodes* have reached full development capacity, or if the further expansion thereof were deemed inappropriate.

**No. 9.1(j):**

The 'woonerf concept' is to be adopted and implemented where appropriate (refer to the figure below). This concept was developed as a traffic calming measure in residential areas and as a 'shared space' where pedestrian and cycle traffic would receive priority over vehicular traffic. The main aims of the concept are to change the role and function of the street; promote traffic calming, increase pedestrian safety, improve urban quality of life; reduce noise pollution, improve the scope of activities in a neighbourhood; improve the aesthetic quality of the street through the introduction of soft landscaping.



**Figure 40: The 'woonerf' concept is to be implemented where possible.**

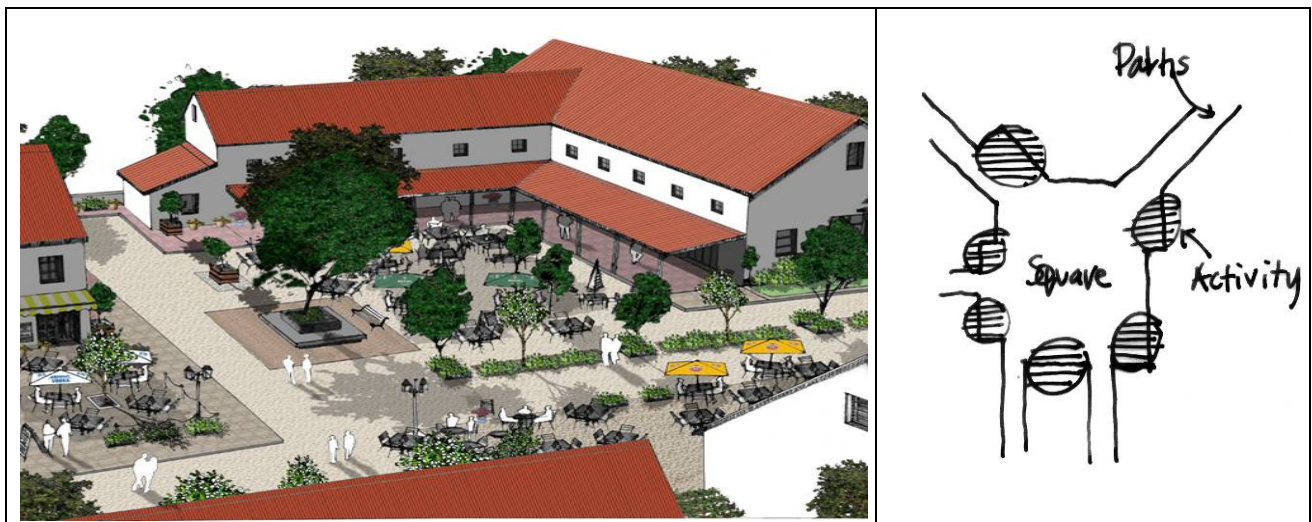


**No. 9.1(k):**

*Activity Streets* must be characterized by positive urban spaces where collective community life and social integration occur. *Activity Streets* are therefore a most important element in the integration strategy of the //Khara Hais SDF.

**No. 9.1(l):**

*Activity Streets* should induce and encourage people to spend time and not just as a movement route. To facilitate this, urban squares are to be created by making a bulge in the street and narrowing the ends thereof (refer to the figure below). These public areas are to be surrounded by gathering places with pockets of activity. Small, partly enclosed areas at the edges, which jut forward into the open space between the paths, and contain activities which make it natural for people to pause. These squares should become *Lower Order Neighbourhood Nodes* (refer to Chapter 7 below).



**Figure 41: Typical urban square linked by Activity Streets.**

**No. 9.1(m):**

*Activity Streets* should be priority areas for introducing a system of bike paths, which are marked clearly with a special, easily recognisable surface. Adequate bike racks must be provided at public transport stops and meeting places. Additional bike paths can be identified as the need arises.

**No. 9.1(n):**

Where development applications in *Activity Streets* are inconsistent with the //Khara Hais SDF, the onus will be on the applicant to prove to the municipality that the relevant application can be reconciled with the objectives and directives of the SDF.

## 10 MUNICIPAL OPEN SPACE SYSTEM (MOSS)

The Municipal Open Space System (MOSS) is network of contiguous natural corridors and urban green areas throughout the town of Upington and the various smaller settlements. The MOSS consists of 3 categories of open space:

- a) **Ecological Open Space**
  - Statutory and Non-Statutory Conservation Areas (SPC A.a)
  - Gariep River Course (SPC A.b)
  - Ecological Corridors / Areas (SPC B.a)
  - Rehabilitation Areas (SPC B.b)
- b) **Social Open Space**
  - Urban Green Areas (SPC B.c)
  - Sports Fields and Infrastructure (SPC D.I)
- c) **Agricultural Open Space**
  - Extensive Agricultural Areas (SPC C.a)
  - Intensive Agricultural Areas (SPC C.b)

The MOSS is aimed at:

- complimenting the built environment by providing it with diversity, natural quality, recreation opportunities and open space general enjoyment, and
- enhancing and protecting biodiversity in the urban environment by providing natural linkages between ecosystems and creating habitats for localized animal and plant species.

The figure below and Plan 8 (appended under separate cover) indicate the designated MOSS in //Khara Hais Municipality.

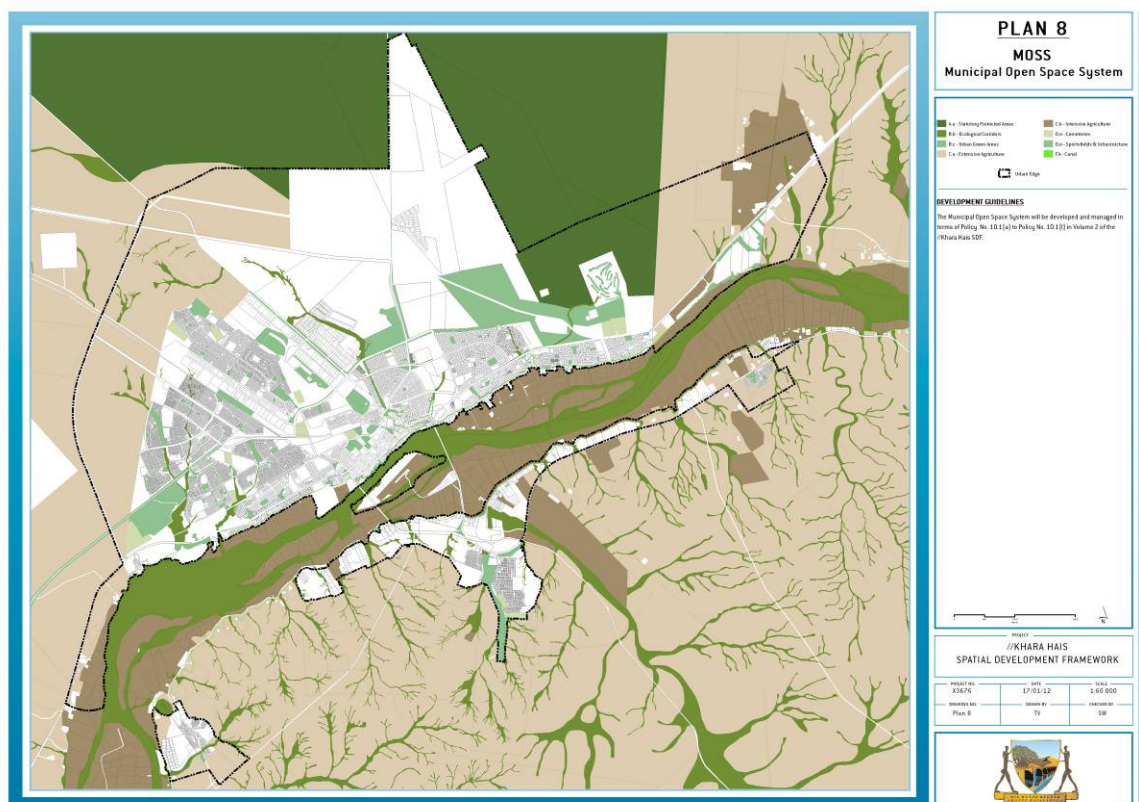


Figure 42: Municipal Open Space System (MOSS) (refer to Plan 8 under separate cover).

## 10.1 MOSS POLICY GUIDELINES

The *Municipal Open Space System* will be developed and managed in terms of the following policy guidelines:

### No. 10.1(a):

The intrinsic, instrumental and systemic values of unique and/or significant natural open spaces (SPC A.a, B.a and B.b), social open spaces (SPC B.c and D.o) and agricultural open spaces (SPC C.a and C.b) should be acknowledged, protected and enhanced.

### No. 10.1(b):

Only those activities compatible with the main land use of SPC A.a, B.a and B.b areas, as indicated in the *Recreational Opportunity Spectrum* (refer to Chapter 6.2 of Volume 3), should be permitted in this zone, including education, recreation, sustainable harvesting of wild resources, eco-tourist facilities and appropriate resort development.

Proposed development should be directed at facilitating environmental education, research, nature-based tourism and recreation, whilst maintaining their 'natural' or 'wilderness' qualities.

### No. 10.1(c):

Development within the MOSS must be undertaken in accordance with Table 6 on Page 32.

Development limited to previously disturbed areas or non-sensitive areas could be considered in return for entrenching active conservation or rehabilitation of ecological areas. Such developments should be managed according to an approved *Environmental Management System* (EMS). Conditions of approval should subject proposed developments to development controls that ensure the following:

- (i) Implementation of the *Sustainable Development Initiative (SDI)* (refer to Chapter 12.2 of Volume 3) as development approach where appropriate.
- (ii) Conservation of the remainder of the property.
- (iii) Establishment and maintenance of corridor linkages between SPC A areas and SPC C areas.
- (iv) Maintenance of the aesthetic quality of the landscape.
- (v) Protection and promotion of the architectural vernacular of the area.

### No. 10.1(d):

In principle, no structures for permanent human habitation are permitted below the 1:50-year floodline.

In the case of existing buildings (e.g. Gordonia Resort, Die Eiland Resort and Reitz Park), or where the floodline has been altered by natural or unnatural circumstances, the development or redevelopment of such areas may be allowed on condition that a comprehensive flood main



management program is drafted, which includes flood control works and/or flood-proofing of buildings.

**No. 10.1(e):**

It is imperative that a comprehensive study and assessment regarding the flood-proofing of buildings be undertaken as part of the mandatory *Scoping and Environmental Impact Assessment (EIA)* process. The following factors related to flood characteristics must be investigated:

- (i) Height of maximum flood level: The lower the depth of flooding the easier it is to flood-proof.
- (ii) Velocity of water flow during flood peaks: The lower the flow velocity the easier it is to design a building that would resist flood waters, e.g. the water flow velocity at experienced at Gordonia Resort will be lower than that experienced at Die Eiland Resort and Reitz Park.
- (iii) Duration and frequency of floods: The longer the area is flooded, the more difficult and expensive is the flood-proofing.
- (iv) Other factors such as floating debris.

**No. 10.1(f):**

The following flood proofing methods could be considered in the feasibility study regarding flood-proofing of buildings as part of the *Scoping and EIA* process:

- (i) Buildings on fill: The construction of buildings on fill raised above the design flood level would be required for new subdivisions. It does not require design modifications, and if the design flood water level is exceeded, the depth of water over the fill will be shallow and of short duration. For example, this method could be implemented for the development of Gordonia Resort.
- (ii) Buildings on piers, piles or columns: Elevating structures above design flood level on an appropriate support structure (to be designed by a consulting engineer) provides reliable protection against flood damage. This method uses land efficiently, does not raise the flood level, and has minimal adverse effects on flood flows. This strategy does however require careful design to prevent damage of supports from floating debris and to allow sufficient space for it to pass underneath. It cannot be used for large existing buildings and may be difficult to apply event to small, light structures.
- (iii) Seal of lower levels of buildings: Flood-proofing of the lower levels of buildings by sealing them against water penetration requires that they be made strong enough to withstand cracking from the lateral en uplift pressure of the water. Accordingly, careful design of drainage systems, floor slabs, basement walls, lower windows and all entrances is essential.

**No. 10.1(g):**

Stormwater drainage on the southern side of the Gariep River has to cross the canal system. 'Drop lines' were therefore installed during construction of the canal at certain points to allow surface stormwater to cross the canal towards the Gariep River.

These 'drop lines' must be honoured in future development in their vicinity. No structural development must be allowed in the natural stormwater drainage lines. These areas must be

appropriately landscaped and incorporated in proposed developments as open spaces and parks (i.e. the MOSS as described in Chapter 10).

**No. 10.1(h):**

Ensure that every community has access to a well developed *Social Open Space* by developing the parks and recreation areas in accordance with the needs identified in the Integrated Development Plan.

**No. 10.1(i):**

The design of new developments along the edge of the MOSS, especially along *Social Open Spaces*, should, where possible and practical, front onto the open space rather than backing onto it in order to promote access and natural surveillance. Provide the opportunity for as many different uses as possible to enable long-term viability and sustainability of the entire open space system.

**No. 10.1(j):**

Make the multi-use of open space a priority, e.g. identify sites for urban agriculture and other uses that have potential economic benefit.

**No. 10.1(k):**

Design open space systems, especially within the urban environment, to allow the various interlinked ecosystems to function effectively.

**No. 10.1(l):**

Assist established and subsistence farmers to control the utilization of the natural agricultural resources in accordance with the Conservation of Agricultural Resources Act 43 of 1983 (CARA).

## 11 ADJUDICATING COMPLIANCE OF APPLICATIONS WITH THE SDF

When considering a development application a primary requirement is that the consistency thereof with the SDF be adjudicated and that the *consistency principle* be adhered to.

Any development proposal would fall within one of the following three categories, namely:

**Category A:** The SDF makes provision for such proposal.

**Category B:** The designation and intent of the SDF do not explicitly provide for the proposal but, the proposal is not necessarily clearly in conflict with the intent and purpose of the designation concerned.

**Category C:** The proposal is in conflict with the designation and intent of the SDF.

Proposals falling within the respective categories would be dealt with in terms of the following procedures:

- a) Proposals falling within Category A are processed and adjudicated by the Municipality without any further action in terms of the relevant SDF.

- b) In the case of Category B, an official consistency ruling has to be made. If this ruling is positive, the proposal can be dealt with as a Category A case. If the ruling is negative, the proposal becomes a Category C case.
- c) In the case of Category C, consideration can be given to amending the SDF. Such amendment must take place prior to, or at the latest, simultaneous with the evaluation of the proposal. If the amendment application were approved, the SDF is amended and the proposal can be processed. If the amendment application were unsuccessful, the proposal cannot be processed.

In principle, the SDF does not support developments that do not comply with the *consistency principle*. However, each development application will be adjudicated by the Municipality on merit in accordance with the guidelines stipulated in the preceding chapters. The merit of applications that are inconsistent with this SDF will be adjudicated against *inter alia* the following:

- a) Desirability of the proposed project.
- b) Feasibility of the proposed project in social, economic and environmental criteria.
- c) Potential contributions of the proposed project to local economic development and environmental protection. As stated in Chapter 5.2 of Volume 2, the Municipality may require, as a condition of approval, that such developments be undertaken in accordance with the *Sustainable Development Initiative* (SDI) approach (refer to Chapter 12 of Volume 3).

**DENNIS MOSS PARTNERSHIP  
STELLENBOSCH**